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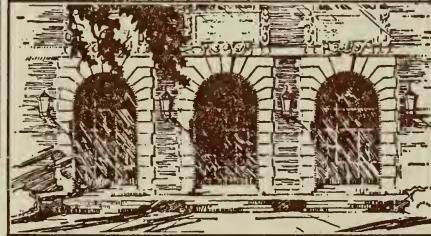
ENGINEERING OPEN HOUSE

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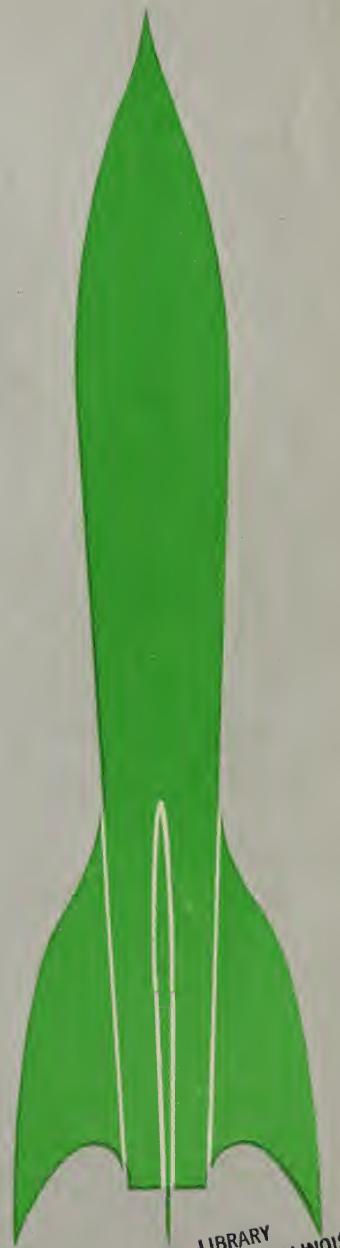
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FRIDAY
MARCH 31
2 PM - 10 PM

SATURDAY
APRIL 1
9 AM - 6 PM

PROGRAMS 10c



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DEAN W. L. EVERITT

Greetings!

Speaking for the students and faculty in the College of Engineering, I would like to extend to you a very hearty welcome to the 1950 Illinois Student Engineering Exhibit. It is the sincere wish of all of us that your visit here will be most pleasant. Toward that end, a program containing a great variety of interesting exhibits and demonstrations has been provided.

This year's exhibit, the first since the war, is made possible by the combined efforts of all the Engineering students, coordinated through the Engineering Council, an organization which represents the various student engineering societies of the individual departments. We all hope that in addition to enjoying the show, you will also gain a better understanding of the profession of engineering and of the unusually fine facilities at Illinois for training for that profession.

W. L. EVERITT

Dean, College of Engineering

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AERONAUTICAL LABORATORY I

Presented by the Institute of Aeronautical Sciences.

WIND TUNNEL TEST—will be operated every half hour on the first and third quarters of the hour.

AERONAUTICAL LABORATORY II

The following exhibits are presented by the Institute of Aeronautical Sciences.

TURBO JET ENGINE—working cutaway of the type used in modern fighter planes.

CUTAWAY PULSE JET ENGINE—of the type used to power German buzz bombs.

SMALL RECIPROCATING ENGINE—of the type used to power light planes.

LATEST DESIGNS—will be shown along with student-built models.

STRUCTURAL FRAMEWORK—of an aircraft.

LANDING GEAR DROP-TESTING DEVICE

HYDRAULIC TESTING MACHINE

CAR WHEEL and BRAKE SHOE TESTING LABORATORY

Presented by the American Society of Civil Engineers.

A RAILWAY CAR WHEEL TESTER—capable of exerting a shoe pressure of 22,000 pounds, operating at speeds up to 100 miles per hour.

CERAMICS BUILDING

The following exhibits are presented by the student branch of the American Ceramic Society.

FIRING OF ENAMELS, *Kiln House*

BRICK MACHINE—in actual operation, *Kiln House*

SMELTING—of frits, *Kiln House*.

POTTERY DEMONSTRATION, *Room 112*

REFRACTORY DEMONSTRATION, *Room 113-A*

SPRAYING AND FIRING, *Enamel Laboratory, room 116*

MEASUREMENT—of glass properties, *Glass Laboratory, room 216*

MEASUREMENT—of high temperatures, *Pyrometry Laboratory, room 317.*

IDENTIFICATION OF MINERALS—by microscopic means, *Microscopy Laboratory, room 322.*

CIVIL ENGINEERING BUILDING

The following displays are presented by the Architectural Engineers.

STUDENT PROBLEMS—in the architectural design of buildings.

MODELS—illustrating structural systems and materials.

STUDENT NOTEBOOKS—in steel and concrete.

BLUEPRINTS—showing structural details.

PHOTOGRAPHS—of architectural structures.

SELECTED STRUCTURAL MATERIALS—on display.

The following exhibits are presented by the Institute of Traffic Engineers.

TRAFFIC COUNTERS—recording the number of vehicles passing a point each hour.

RADAR SPEED METER—in operation continuously recording the velocity of vehicles on Green street.

DRIVING TRAINING CAR

DRIVER REACTION METER

MOVIES—showing all fields of civil engineering, Room 205.

The next display is presented by Tau Nu Tau, honorary fraternity for military engineering students.

TWO SCALE MODELS OF BRIDGES—The M-4AZ floating bridge, which is flexible and semi-permanent, and the Bailey Bridge, considered as a permanent bridge, Room 209.

EAST CHEMISTRY BUILDING

The following exhibit is presented by the American Society of Agricultural Engineers.

A MODEL DRAINAGE DITCH—showing how the capacity flow of drained water can be handled by the use of well planned and constructed ditches.

MACHINE AND POWER—of “Yesterday, Today, and Tomorrow,” a panorama showing the improvements of agricultural machinery. Cut-away views and movies will show the working mechanisms of modern farm equipment.

YOUR FARMSTEAD IN THE FUTURE—showing improvements and new developments in farm building.

The following exhibit is presented by the American Institute of Chemical Engineers.

COLD FIRE DEMONSTRATION—showing that by a special combination of chemicals, a reaction can be made to take place at a different temperature.

WATER BOILING IN A PAPER CUP—heated by a direct Bunsen flame.

PRESSURE DROP DEMONSTRATION—along a pipe.

MINIATURE VOLCANO—showing that a high temperature is possible in a chemical reaction.

BURNING OF SUGAR—by means of a catalyst.

MOVIES—4:00, 7:00, and 9:00 p.m., Friday, March 31, and at 10:00 a.m., 1:00 and 3:00 p.m., Saturday, April 1, *Lecture Hall*.

ELECTRICAL ENGINEERING BUILDING

The following exhibits are presented by the combined student branch of the American Institute of Electrical Engineers and the Institute of Radio Engineers.

STRENGTH TESTER—Determine your coefficient of developed man-power.

FLOATING DISHPAN—Like a strapless evening gown; no visible means of support.

TIN CAN MOTOR—A powerman's nightmare.

Shown in the Dynamo Laboratory, room 50.

KISSOMETER—An electronic indication of osculation conductivity.

ELECTRICAL SCALE—Strain gages fixed to a beam indicating the weight on the beam.

LIE DETECTOR—Will catch you every time.

Shown in the Measurements Laboratory, room 146.

COLOR ORGAN—Colors appear in harmony with the music, *Lounge*, room 165.

GHOST WRITER—Your name written by a stream of electrons.

PHOTOELECTRIC TRANSMISSION OF SOUND.

ELECTRONIC MOTOR CONTROL—Similar to those used for large industrial machines.

Shown in the Electronics Laboratory, room 240.

THEREMIN—Movement of the operator's hands controls the tone and volume although the operator does not touch the instrument.
Radio Laboratory, room 246.

TELEVISION SET—in operation.

RADAR SET.

STANDING WAVES—along a transmission line.

Shown in the Ultra High Frequency Laboratory, room 251.

The following displays are presented by the student branch of the Illuminating Engineering Society.

BLACK LIGHT—It's out of this world.

STROBOSCOPIC EFFECTS—See motion "frozen" with light.

LIGHT THAT IS BENT—Really twisted like a pretzel.

HIGH-FREQUENCY LIGHTING—One way to avoid paying light bills.

PSYCHOLOGICAL EFFECTS OF COLOR.

TIME MIRROR—See yourself in the future.

THE PROBLEM OF GLARE—A method of remedying it without turning off the light.

FOUNDRY BUILDING

The following demonstrations are presented by the student branch of the American Foundrymen's Society.

SAND TESTS—for proper moisture, bond strength, and clay content.
Sand-testing Laboratory.

CORES—will be made and baked in ovens. *Core Room.*

MOLDS—will be made by students on the molding floor.

IRON, ALUMINUM AND BRASS—will be poured into molds.

GASOLINE ENGINE PARTS—will be cast.

SOUVENIRS—will be given to the public in the form of ashtrays and paperweights.

HYDRAULIC ENGINEERING LABORATORY

The following exhibits are presented by the American Society of Civil Engineers.

DENSITY CURRENT RESERVOIR MODEL—showing how they become filled with silt from rivers.

RAIN GAGES AND WATER CURRENT METERS—will be on display.

MECHANICAL ENGINEERING BUILDING

The following exhibits are presented by the American Society of Mechanical Engineers.

STRUCTURE OF GRAINS IN VARIOUS METALS—shown under microscopes. *Microstructure Laboratory, room 120.*

INDUCTION HEATING—and treating of various metals. *Heat Treating Laboratory, room 114.*

ROCKWELL AND BRINELL HARDNESS—will be tested. *Heat Treatment Test Laboratory, room 115.*

MECHANISMS—used to illustrate the principles of machine design, gearing, bearings, steam pistons, etc. *Room 138.*

COMMERCIAL DISPLAYS—*Basement.*

ARC WELDING—gas welding, resistance welding, and flame cutting. *Welding Laboratory, room 221.*

A $\frac{1}{4}$ HORSEPOWER ENGINE—will be designed, machined, assembled and operated. *Machine Shop Laboratory, room 218.*

MOVIES—will be shown continuously, *room 253.*

The following exhibits are presented by the student branch of the Society of Automotive Engineers.

CHEVROLET PASSENGER CAR ENGINE—A discussion of specifications and actual operation will be shown.

INTERNATIONAL HARVESTER ENGINE-MODEL UD—A discussion on the theory of Diesel operation and a demonstration of compression and ignition will be given.

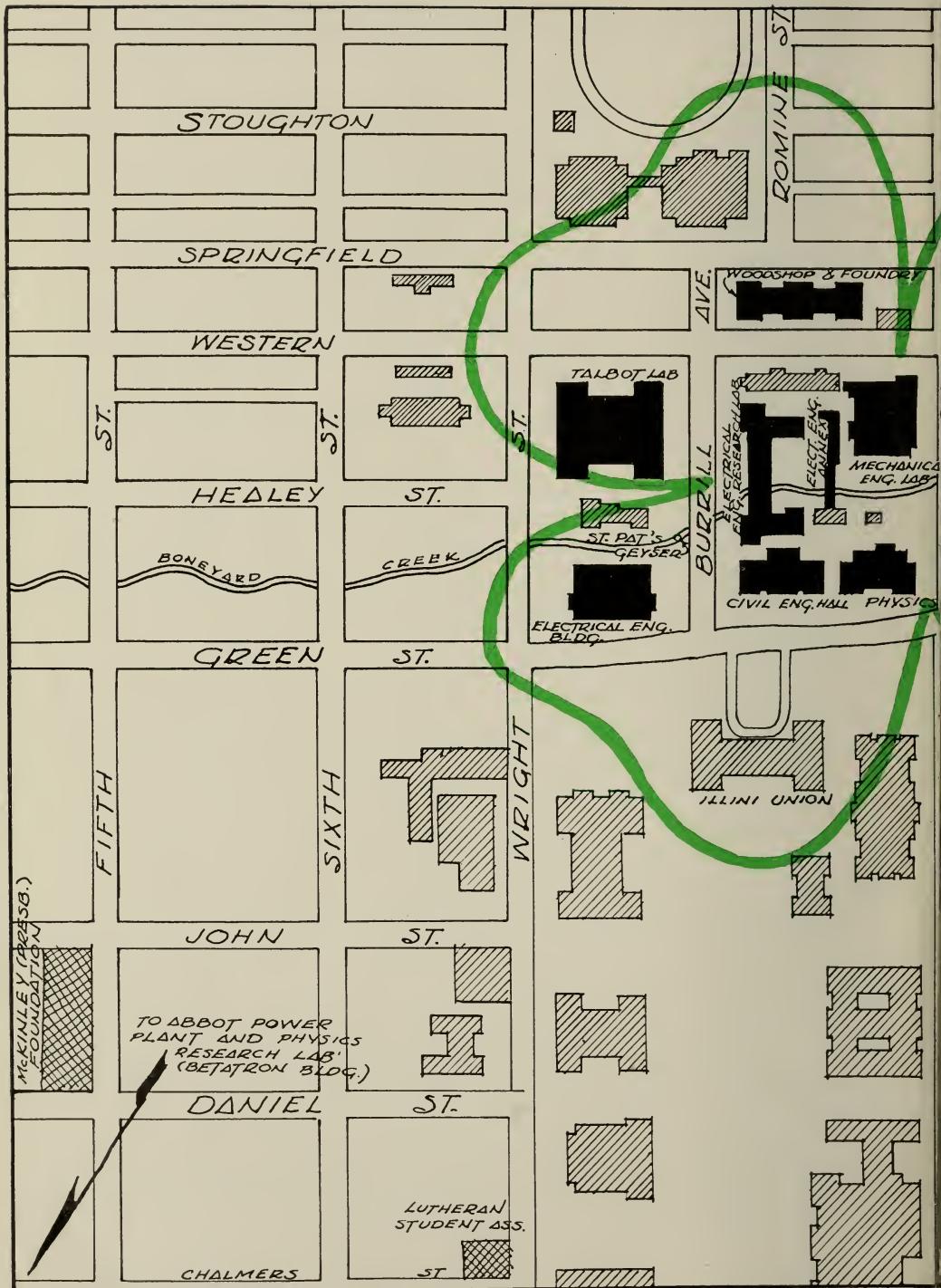
OLDSMOBILE CHASSIS—A cutaway view of the chassis and engine showing all internal parts. Lamp bulbs will be set in spark plug positions to show relation between spark and valve timing.

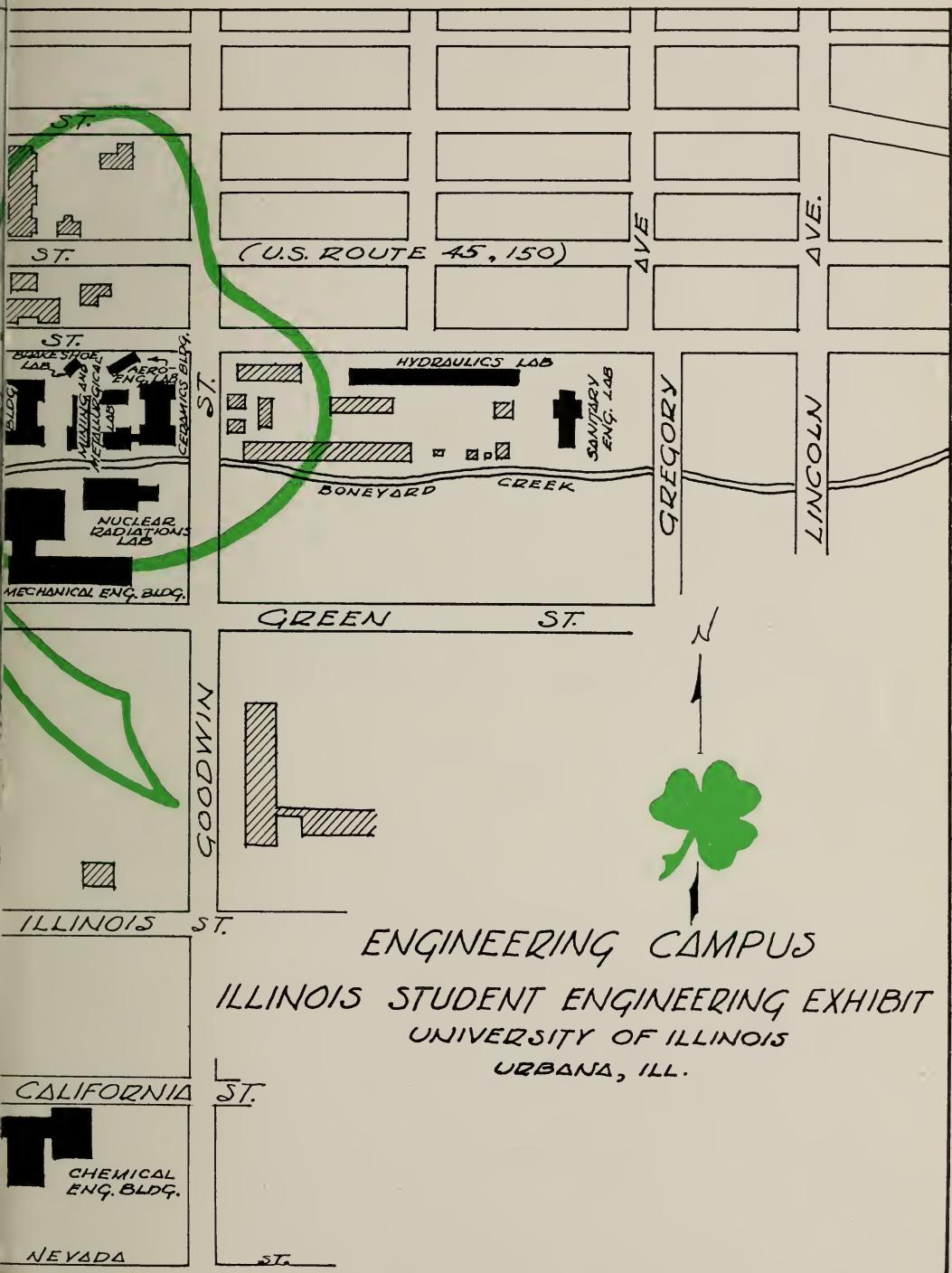
Shown in the Internal Combustion Engine Laboratory.

MECHANICAL ENGINEERING LABORATORY

ON DISPLAY—will be the cutaway radial engine, jet engine cutaway, belt tester, knock testing engine, and air conditioning equipment.

MOTORISTS' REACTION TESTING DEVICE—simulating regular driving conditions to test driver's reaction time in stopping under various driving conditions.





ENGINEERING CAMPUS

ILLINOIS STUDENT ENGINEERING EXHIBIT
UNIVERSITY OF ILLINOIS
URBANA, ILL.

METALLURGICAL LABORATORY

The following exhibits are presented by the student branch of the Mineral Industries Society.

METALLURGICAL MICROSCOPE—in which specimens of metals are magnified 500 times.

METALLOGRAPHY—in which photographs of specimens under the microscope are taken.

CUPOLA, ELECTRIC ARC, AND ELECTRIC INDUCTION FURNACES—shown in action as molten metal is poured like water.

LIQUID METAL—sprayed like paint.

STRUCTURE OF URANIUM.

MINING LABORATORY

The following exhibits are presented by the student branch of the Mineral Industries Society.

A COMPLETE MILL PROCESS—Separation of metal from ore.

ROCK CRUSHING—with gyratory and jaw crusher type rock crushers.

ROCK SEPARATOR—in which large particles of rock are sent back for further grinding.

COAL AND ITS PRODUCTS—will be on display with some mining equipment.

MOVIES—of mining and metallurgical operations will be shown continuously.

PHYSICS BUILDING

The following exhibits are presented by the students in Engineering Physics.

STANDING WAVES—using a rope and stroboscope.

GEIGER COUNTER.

GYROSCOPE—shown in actual operation.

MERCURY HAMMER—made with liquid nitrogen.

Shown in room 100.

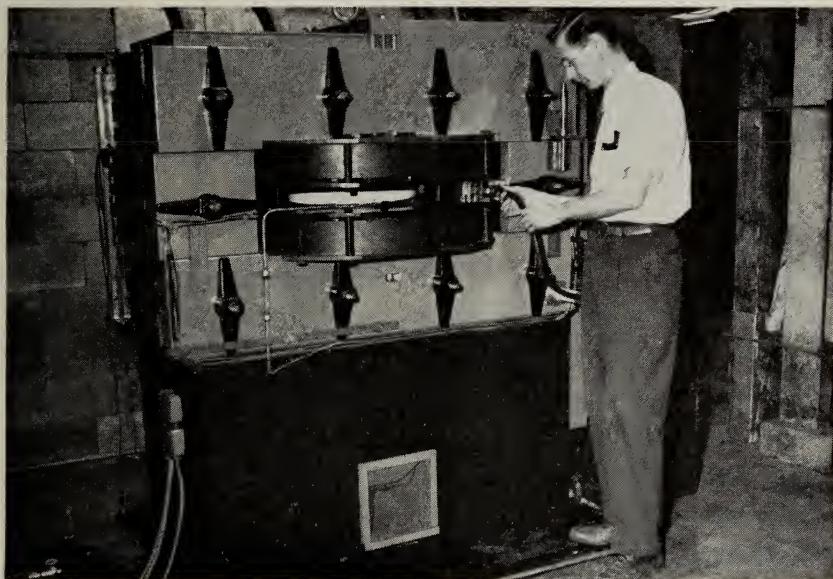
GEIGER SCALARS—Types of scalars for counting Geiger pulses.

INSIDE A TELEVISION TUBE—Electron gun and deflecting plates of a cathode ray tube.

WILSON CLOUD CHAMBER.

REFLECTION OF X-RAYS—Small pencil of X-rays bouncing off a crystal and detected with a Geiger counter.

Shown in room 112.



This is a view of a small betatron. Shown in the picture is Professor Donald Kerst, who invented the first betatron in 1940. The betatron is a device for accelerating electrons to amazingly high speeds so that they may be used to split the nuclei of atoms. The largest betatron in the world, a 300 million volt radiation machine, will be shown in the Physics Research Laboratory, commonly referred to as the Betatron Building.

SANITARY ENGINEERING LABORATORY

The following exhibits are presented by the American Society of Civil Engineers.

MODEL OF A COMPLETE WATER SUPPLY AND SEWAGE SYSTEM—for a small town, complete in every detail.

MOVIES—on sanitary engineering will be shown continuously.

TALBOT LABORATORY

The following exhibits are presented by the American Society of Civil Engineers.

A CONCRETE CYLINDER—will be broken every hour on the hour by the three million pound hydraulic testing machine, *Main Laboratory*.

DEMONSTRATIONS OF CLASS EXPERIMENTS—including tests of pumps, turbines, and weirs, *Fluid laboratories*.

PHOTOELASTIC MODELS—These models glow in bright colors at points of stress when viewed under polarized light.

TRANSPORTATION BUILDING

The following exhibits are presented by the students in the General Engineering Drawing classes.

INDUSTRIAL PRODUCTION ILLUSTRATIONS—work done in the student course, G.E.D. 110, *Room 308*.

AIRCRAFT DRAWINGS—will be displayed, *Room 306*.

DRAFTING EQUIPMENT—will be shown in demonstration. *Room 305*.

SLIDE RULES—Fifty different types, *Room 303*.

REPRODUCTION OF ENGINEERING DRAWINGS, *Room 400*.

THREE DIMENSIONAL SLIDES—used for teaching descriptive geometry, *Room 316*.

SOUVENIRS—will be given by the General Engineering Drawing Department.

OTHER ATTRACTIONS YOU CAN'T MISS

The power plant of the University of Illinois will be open for general inspection. Regular tours will be conducted through the plant every hour on the hour from 3:00 P. M. to 6:00 P. M. Friday, March 31, and 10:00 A. M. to 4:00 P. M., Saturday, April 1.

In addition to these exhibits on the Engineering campus, there are three railroad cars open for your inspection on the Illinois Central Railroad siding near the Betatron Laboratory on the south side of the campus.

THE DYNAMOMETER TEST CAR, owned jointly by the University and the Illinois Central Railroad, has what is known as a hydraulic system for measuring the pull that a locomotive exerts against the resistance offered by a train.

THE AIR BRAKE INSTRUCTION CAR, owned by the railroad, is used to educate railroad men in the design, construction, and principles of operation and servicing of air brake equipment used on cars and locomotives.

THE RAIL FLAW DETECTOR CAR is used to detect transverse fissures, compound fissures, and detail fractures in rail.

PARADE

At 12:00 o'clock noon, Friday, March 31, all engineering students of the University will be excused from classes and the I SEE will begin officially. At 2:00 P. M., the parade will begin on Green Street. Leading the parade will be the St. Pat's float including the famous Blarney Stone found recently in the Boneyard Creek on the North Campus. Included in the parade will be an Engineering Band and a long line of the newest model automobiles. Each engineering society will feature a float, as will the honorary engineering fraternities, and the two social engineering fraternities, Sigma Phi Delta and Triangle.

ST. PAT'S BALL

The first St. Pat's Ball was innovated in 1934. It was such a success that the dance was established as an annual affair for engineering students. The war interrupted the festivity, but the St. Pat's Ball was revived in 1948.

Now again this year, the engineering dance will climax the series of elaborate events on North Campus. St. Pat himself will be present to perform the knighting ceremony. Deserving seniors in the College of Engineering will have the title "Knight of the Order of St. Pat" bestowed upon them. The semi-formal dance will be held Saturday, April 1, 9-12 P. M. at Huff Gymnasium. Tickets may be obtained at the Illini Union box office.

ENTERTAINMENT AT FOUNDATION

The McKinley Foundation, an independent university student center, will hold open house Saturday evening, March 31, for high school visitors. Located at Daniel and Fifth Streets in Champaign, the foundation will serve food and provide entertainment in the form of games and movies.

LUNCH STAND

For a quick and delicious snack, take advantage of the two I SEE lunch stands. One is located at the west side of the first balcony above the Agricultural Engineering exhibit in the East Chemistry Building. The other is at the west end of the Dynamo Laboratory in the basement of the Electrical Engineering Building. These two stands will serve the best of hamburgers, hot dogs, pie, ice cream, milk, and coffee.

A WORD OF THANKS

Many people have contributed to the success of the I SEE. We would like to thank the many students who gave birth to this year's open house and who worked so diligently on the project these past few months.

Without the friendly aid and encouragement of Dean W. L. Everett, the I SEE might never have been possible. The faculty also deserves a word of praise for their fine cooperation and work done for the exhibits.

The splendid work of Ray Hauser was an inspiration to all of us through the many weeks of preparation. He was the engineer behind the job.

The cover illustration was drawn by George Reihmer and the map was drawn by Connie Minnich.

The use of the wireless communication units which are facilitating the coordination between buildings is made possible through the courtesy of Motorola, Inc.

REGISTRATION OF VISITORS

In order to help in the planning of future engineering student shows, the committees have placed attendance cards at the displays. Please fill out one of these at the first display you visit and place it in the box provided.

Any written comments or suggestions will be appreciated and may be placed in the same boxes.

INFORMATION

The headquarters for the I SEE are on the first floor of the Civil Engineering Building, which is located directly across Green street from the Illini Union. If you wish information or have any questions concerning the I SEE, stop here. There is also an information booth located in the lobby of the first floor of the Illini Union. They will be happy to assist you.

I SEE PERSONNEL

Chairman.....RAY HAUSER

CENTRAL COMMITTEE	EXECUTIVE COMMITTEE
PARADE	AFS Charles E. Waters
Connie Minnich, Chairman	AIChE Bob Gaudlitz
Dean Felton	AIEE-IRE Cliff Stettler
John Huber	ASAE Jere Castor
Al Makulec	ASME Victor Swenson
Frank Blake	ASCE Harry Von Huben
PROMOTION	IAS Cliff Felt
Tom Brown, Chairman	IES Val McClusky
Bob Friedman—Statewide	ITE Tom Fry
Chuck Waters—Local	MIS Jim Skarda
PHYSICAL ARRANGEMENTS	SAE Bob Reynolds
Maurice Cobb, Chairman	SBACS Jerry Schweitzer
Dave Cash—Food	Physics George Mader
Harry Miles—Lighting	Arch. Eng. Jim Woods
Dick Warnock—Accommodations	G. E. D. Tom Richardson
Dick Powers—Signs	
PROGRAM	
Art Dreshfield, Chairman	
George Vriend—Awards	
Frank Schnierow—Attendance	
Bob Bannon—Headquarters	
Richard Choronzny—Programs	
Jim Roberts—Circulation	

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ALTGELD HALL

ENGINEERING 19 - OPEN - 52 HOUSE

PRESENTED BY STUDENTS AND FACULTY

MARCH 14-15

AT THE UNIVERSITY OF ILLINOIS



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1952 ENGINEERING O



DEAN W. L. EVERITT

Greetings!

It is a pleasure to welcome again, on behalf of the students and faculty of the College of Engineering, the guests who are visiting our 1952 Engineering Open House. We have all been working hard to make your visit a pleasant one, and we hope that you will enjoy yourselves, and at the same time learn something of the interests and activities of a great engineering college.

We are very proud of our facilities, and want you to see them, but we hope even more that this expression of the co-operative work of the engineering students will demonstrate the personality and esprit de corps of our student body. With all the advantages of the large university, the Engi-

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N. HOUSE PROGRAM

neering College also is divided into smaller units which exhibit the intimate character of a close relationship between students and faculty.

If you want to know more than is apparent on the surface, do not hesitate to ask questions of our students. We hope that this visit will whet your appetite and make you want to come back and get acquainted with us even better.

W. L. EVERITT
Dean, College of Engineering

ROUTING

The proposed route of Open House visitors has been set up in the form of a circle, so that no matter what building a group starts at, they may follow the route and be sure that they have seen every exhibit. The route is shown by footsteps on the map in the center pages of this program. The exhibits in this program are listed in order of routing.

INFORMATION

The central headquarters for the Engineering Open House are located on the basement floor of the Electrical Engineering building. If you wish any information or have any questions concerning the open house you may stop there or at any of the information desks located at the entrance of every building.

REGISTRATION OF VISITORS

In order to help in the planning of future engineering student shows, attendance sheets have been placed at the information desk in each building. If you did not register when you received this program, please go to an information desk and do so.

Any suggestions or comments, good or bad, will also be appreciated and may be placed in the boxes at the information desk.



TALBOT LABORATORY

MATERIALS TESTING LABORATORY: A large concrete cylinder will be broken every hour on the half-hour by the 3,000,000 pound hydraulic testing machine. A 200,000 pound repeated load machine testing structural joints. Reinforced concrete—studies of beams and columns. Plasticity—the plastic flow of a beam subjected to a dead load. Railroad Rail Testing—Railroad rails are tested to failure in order to make rail travel safer.

Hydraulics and Fluid Mechanics—class experiments on tests of pumps, turbines, weirs, water tunnel, and a hydraulic jump in a glass walled flume, *Rooms 126 and 129*. Movie—experimental work in Theoretical and Applied Mechanics, *Room 200*. Soils—determination of engineering properties of soils and demonstrations of field equipment, *Rooms 201 and 113*. Materials testing—class experiments of lead extrusion, wood in compression, and steel bars in tension, *Properties of Materials Laboratory—Room 225*.

Mechanical Vibrations—see vibration measuring instruments, models of free vibration systems, self-induced vibration systems, forced vibration system, and the gyroscope, *Room 220*. Plastics and Laminations—Exhibitions of specimens and special equipment, *Room 220 and Plastics Laboratory*. Fatigue of Metals—metals are repeatedly loaded to failure in bending, torsion, direct stress, and combined stress, *Fatigue Laboratory, Room 321*. Lead testing laboratory—Long time studies of lead cable used for electric transmission under controlled conditions, *Room 302A*.

FOUNDRY

Main Floor—Making of sand molds, casting of cast iron, aluminum, brass. Souvenirs will be distributed. Basement—Core making and drying, sandblasting. Sand Testing Laboratory—testing of various properties of molding sands.

AERONAUTICAL LABORATORY B

L. K. Glider—a typical glider used by the University Glider Club in its activities. Shock Tube—used to obtain very high velocities for supersonic research.

Engine Displays—Pulse Jet, largest ever built; TG-100, first turboprop ever built and tested; a two cylinder engine with counter-rotating props—shows a possibility for light planes of the future; Walther Rocket—an early rocket developed by the Germans; German JATO Rocket—used by the Germans for jet assisted takeoff.

Modern designs and student built models, landing gear drop test, static bend test, Wagner tension bend test, and examples of developments in aircraft structures.

MECHANICAL ENGINEERING LABORATORY

Power Laboratory—educational unit power plant, cutaway of an aircraft jet engine, air conditioning test apparatus, motorist reaction timer, running of Otto engine, *Main floor*. Physical Environment Laboratory—high altitude chamber. Display of railway axles failure, home heating test equipment, special research instruments, *Main floor of Power Laboratory*.

TRANSPORTATION BUILDING

Industrial Production Illustrations—work done in the student course, Demonstration of the Airbrush, G.E.D. 210, *Room 308*. Aircraft Drawing and Lofting—will be displayed in *Room 306*. Drafting Equipment—will be shown in demonstration, *Room 305*. Slide Rules—Fifty different types, *Room 303*.

Black Light Demonstration—used in teaching drawing. *Room 316*. New Methods of Reproducing Engineering Drawings—*Room 400*. Display of nineteen Patent drawings which have changed civilization. Souvenirs will be given by the General Engineering Drawing Department.

MINING LABORATORY

Coal and its products will be on display with some mining equipment. Mine ventilation apparatus, mine safety lamp and the detection of gas, gas analysis equipment and how it operates. Diamond drilling, particle sizing using a glass infa-sizer, a model of a mine, and a display of important minerals.

Separation of Minerals—oil froth flotation method of separating galena, sphalerite and limestone. Coal preparation—coal washing, and flotation of coal fines. Explosibility of Coal dust—causing coal dust, ordinary house flour and sulfur to explode. Photoelasticity—how it is applied to determine stresses around mine openings. Movies of mining and metallurgical operations will be shown, *Met. 203*.

METALLURGY LAB

The structure of metals through a microscope, steel magnified one thousand times, metal run like water, brass cast at 2600 deg.F., steel shrinking upon heating. Get a nickel plated good luck piece, nickel plated while you watch. Magnetic inspection showing invisible cracks in metal parts, hear metal cry out loud, steel hardened by heat treatment. Feel cold metal mysteriously get hot while you hold it in your hand. Movies of metal production, forming, and heat treatment.

AERONAUTICAL LAB A

Wind Tunnel Test—lift forces on a typical airfoil.

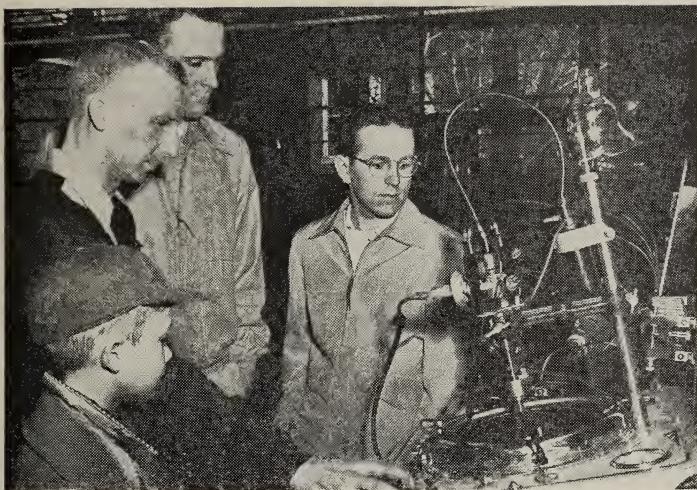
CERAMICS BUILDING

Spraying and Firing of Enamels—*Room 102 and Kiln House*. Brick Machine—auger and cutting mechanism, *Kiln House*. Smelting of Enamels in Rotary Smelting, *Kiln House*. Slip Casting of Pottery Ware—*Kiln House*. Microscopy—mineral identification, *Kiln House*. Pyrometry—high temperature measurement, *Kiln House*. Jiggering and Throwing of Pottery and Dinnerware, *Pottery Laboratory*.

Displays of manufactured ceramic ware and flow diagrams demonstrating manufacturing processes and raw materials—refractories, dinnerware, enameled ware, glass, cements, structural clay, pottery, abrasives, enameled jet engine parts.

MECHANICAL ENGINEERING BUILDING

Tool Design Laboratory—display of tools and production plant layouts, *Room 135*. Lounge—a place to relax and meet your friends,

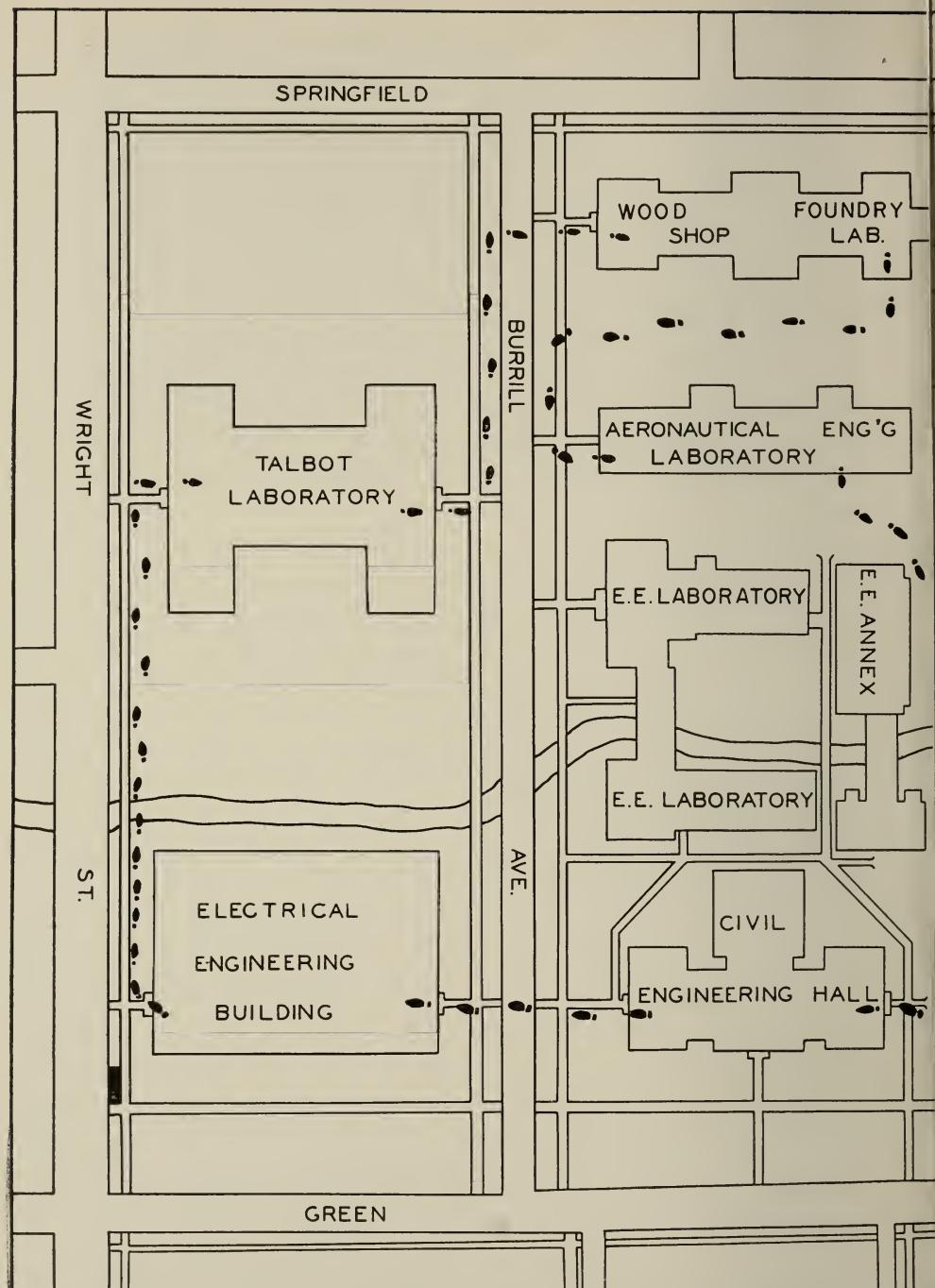


Room 149. Machine Design Laboratory—photoelastic stresses in gear teeth, fatigue of metals as seen under a microscope, balancing machines, lubrication models, *Room 249*. Motion and Time Study Laboratory—work station layouts, movies to show time study techniques, *Room 235*.

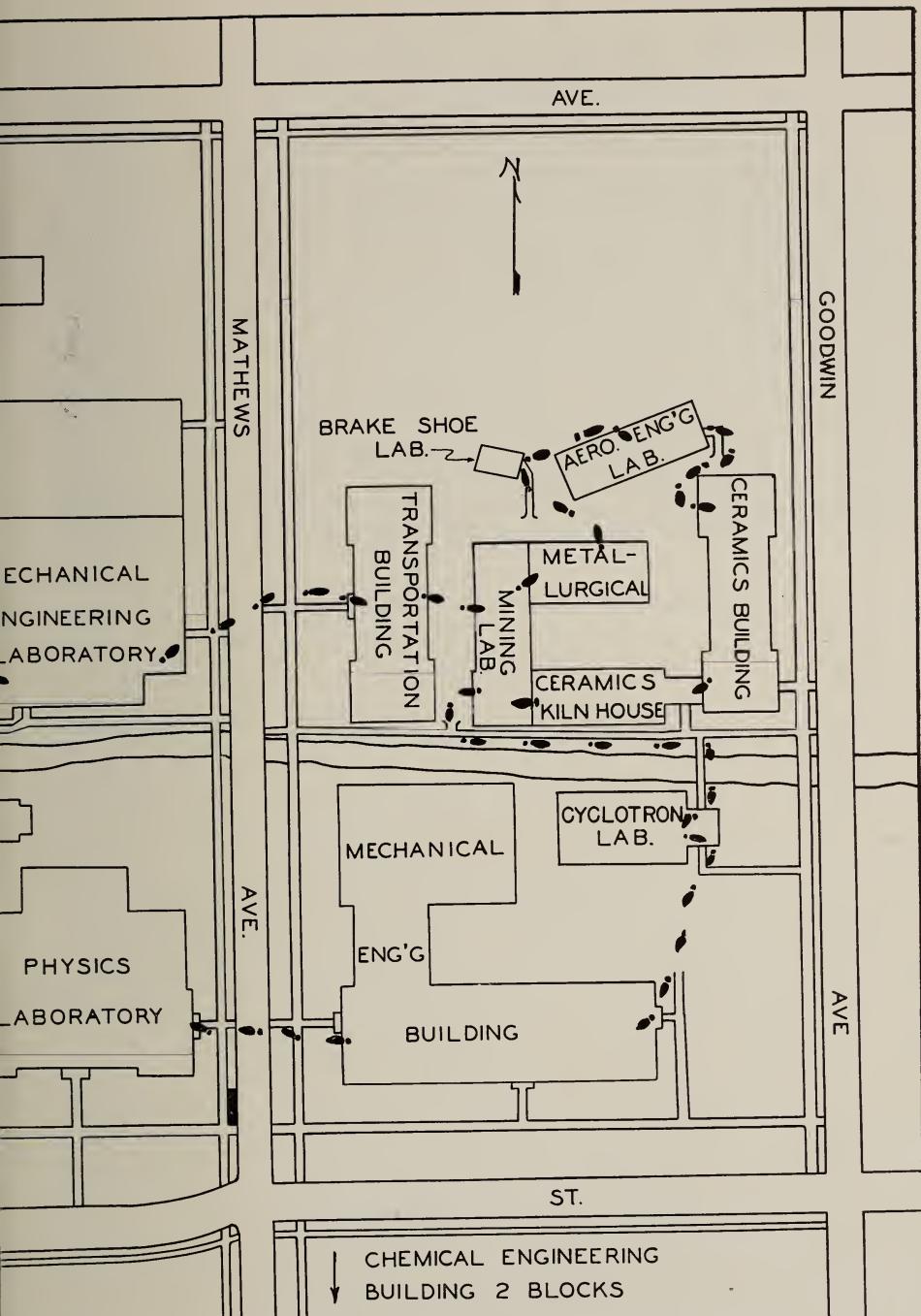
Welding Laboratory—gas welding and cutting, arc welding, metal spraying, tests of welds, *Room 221*. Machine Tool Laboratory—machine tools, demonstrations of operations of special machines, machining parts for small engines, *Room 217*. Heat Treatment of Metals Laboratory—heating steel by induction heating, heating and quenching of steel, temperature of a match flame, *Furnace room 114*. Micro-structure of various metals, *Microscope room 120*. Testing of strength and hardness of metals, *Testing room 115*.

Internal Combustion Laboratory—performance testing of standard automotive and diesel engines on dynamometer test stands. Cutaway automotive chassis showing moving parts, *Room 101*. Special test engine, *Room 104*. Diesel test engine with variable compression ratio, *Room 105*. Gasoline test engine with variable compression ratio, *Room 106*. Test setup for small aircraft engine to simulate altitude conditions, *Room 107*.

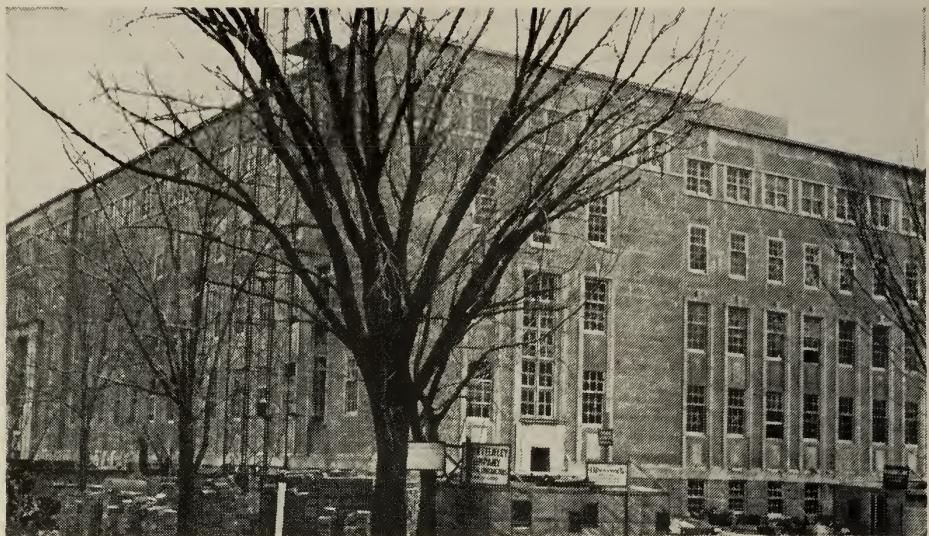
Thermodynamic Research Laboratory—water table for fluid flow studies, photo-viscous flow study equipment, air engine, *Room 51*. Fuels and Lubricants Laboratory—equipment for testing properties of fuels and lubricants, display of oils, *Room 43*. Instruments and Controls Laboratory—equipment to control and meter the flow of fluids. Remote position controls, *Room 35*.



BUS LEAVES EVERY 20 MINUTES FOR CHEMICAL ENGINEERING BUILDING
RAILWAY EXHIBIT & ABBOTT POWER PLANT.



AGRICULTURE ENGINEERING BUILDING , BETATRON,



CHEM ENGINEERING BUILDING

A continuous rotary filter in operation. An all glass distillation unit in operation. A tour through the Unit Operations Laboratory showing laboratory equipment where the principles of chemical engineering are put into practice. The Aqua Hacienda—Free drinks (hydrogen hydroxide cocktails, a specialty).

PHYSICS LABORATORY

Room 100, lecture demonstration of various physical phenomena: Products of the Cryogenics Laboratory—It's cold in there! Standing waves—physicist's rope trick. Gravitation and Acceleration—What every hunter should know.

Room 112: Polarized light, microwaves, gyroscope, the physics of music, cosmic rays.

A conducted tour through the Nuclear Radiations Laboratory (Cyclotron building).

CIVIL ENGINEERING HALL

Model Construction Site—displaying modern construction equipment and practice. Silhouette Structures—showing various types of common roof and bridge trusses. Surveying Equipment—both old and new. Hydrologic Instruments—used in rainfall and other water

studies. Student Problems—in all phases of Civil Engineering design. Movies—presenting numerous phases of Civil Engineering.

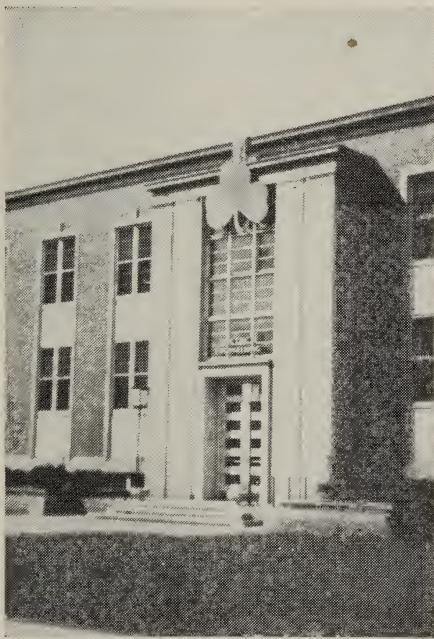
A changing diorama showing the effects of water pollution and how clean waters can be obtained by proper waste treatment. A series of dioramas demonstrating: proper septic tank construction, proper well construction, proper methods of sanitary land fill, the story of sewage disposal from 1800 to 1950. A sample of student work including designs, reports, and layouts. Movies—“A Pipeline to the Sky” and “Clean Waters.”

ELECTRICAL ENGINEERING

Ultra High Frequency Laboratory—electric bulbs light with no connection, and radar in operation, *Room 251*.

Radio Laboratory—modulated A. M. carrier, the signal an A. M. radio receives from the air. Transmitter-receiver in operation, *Room 246*.

Power Laboratory—oscillating motor, perhaps it could be used on a washing machine. Three phase rotating magnetic field, invisible forces at work. Strength tester, Look! It's easy. *Room 50*.



Electronics Laboratory—ghost writer, write with a stream of electrons. Theremin—music at the wave of your hand. Kissometer—ummmmmmm! *Room 240*.

Illumination Laboratory—demonstration of the phases of illumination, *Room 151*. Circuits Laboratory—black light, color, stroboscopic effect, shadow effect, *Room 149*.

AGRICULTURAL ENGINEERING

See results of dynamometer tests made by students in Agricultural Engineering. Compare liquefied petroleum gas and gasoline as fuels for farm tractors. See the effect of changing the compression ratio. See the effect on field losses due to adjustments and changes made on corn pickers; how hydraulic controls enable the farmer to lift heavy machinery with his little finger; research work on tractor valve troubles; research work on fertilizer conditioners to prevent caking and corrosive action.

Model Farm Buildings—scale working models of common modern structures, *2nd floor laboratory*. Working Models—actual performance of crop storage structures, *1st floor laboratory*. Research of Time and Motion Study—see how work and travel can be cut in one-half, *2nd floor laboratory*. Tile—performance of good tile compared with low grade quality, *2nd floor laboratory*. Irrigation—modern farming through the use of supplementary irrigation, *2nd floor laboratory*.

R.O.T.C. EXHIBITS

The Army and Air Force R.O.T.C. Units will have exhibits at various points along the Open House route. These exhibits will consist mainly of training aids actually used in class work. Tau Nu Tau, the fraternity of military engineers will also present an exhibit.

OTHER ATTRACTIONS YOU CAN'T MISS

The Power plant of the University will be open for general inspection. Regular tours will be conducted through the plant continuously from four to ten Friday and from twelve to four Saturday. The Physics department will give conducted tours of the famous Betatron building. Demonstrations of equipment for testing railway car wheels and brake shoes at speeds up to 115 miles an hour will be held in the Car Wheel Laboratory, north of the Mining and Metallurgical Labs.

BUS SERVICE

Free bus service will be given from the Electrical Engineering building to the Chemical Engineering building, Agricultural Engineering, Power Plant, Railway Exhibit, and Betatron building. The buses will leave from the EE building every 20 minutes.



PARADE

At twelve o'clock Friday, March 14, all engineering students will be dismissed from classes and the Open House will officially begin. The parade will start at 2:00 P. M. Leading the parade will be the St. Pat's float and an engineering band. Each engineering society will feature a float, as will the honorary engineering fraternities, and the two social engineering fraternities, Triangle and Sigma Phi Delta.

LUNCH STANDS

For your convenience, two lunch stands will be located along the Open House route. They will be in 6 Aero Lab B and 101 Mechanical Engineering building. These stands will serve hamburgers, hot dogs, pie, ice cream, milk, and coffee.



ST. PAT'S BALL

The Open House will be climaxed by St. Pat's Ball at 9 P.M. Saturday, March 15 in Huff Gymnasium. St. Pat's is an Illini tradition dating back to 1934. St. Pat himself will be present at the dance to knight deserving seniors who have won the title of "Knight of the Order of St. Pat." Ralph Marteire's orchestra will play for the semi-formal dance. Tickets may be purchased at the Illini Union Box Office.

ENTERTAINMENT AT THE FOUNDATIONS

The University Foundations sponsored by the churches here on campus will conduct tours through their facilities on both Friday and Saturday. On both nights a number of the foundations will serve food and provide entertainment in the form of games and movies. For further information consult the bulletin board located at the central headquarters in the Electrical Engineering building.

THANKS

A project such as the Open House requires much time and labor on the part of many people. We would like to thank the students and faculty who have worked so hard on the open house in the last few months. Special thanks should go to Dick Sloan, who contributed the idea for the cover, and to Gordon Fowler, who drew the map. Thanks also go to the many firms which have loaned much valuable equipment to the Open House.

OPEN HOUSE PERSONNEL

Chairman.....JIM GARMAN

Secretary-Treasurer.....ROBERT COUGHLIN

CENTRAL COMMITTEE

PROGRAM

Charles Hudson, Chairman
John Anderson—Awards
Bob Schrader and Ken Anderson—
Programs
John Horsley — Headquarters and
Routing

PUBLICITY

Ed Fort, Chairman
Richard Chester and Marvin Carr—
High School Publicity
James Fisher—Legal
Melvin Rudich—Professional
Societies and Navy Pier

PHYSICAL ARRANGEMENTS

Dan Levin, Chairman
Ray Reusch—Transportation
Leonard Liebling—Room
Reservations
Martin Goldstein—Lunch Stand

PARADE

Dan McCurdy, Chairman
Other members of staff not picked
at the time the program went to
press.

Advisers *Ex-officio*:

W. L. Everitt, Dean of College of Engineering
S. H. Pierce, Assistant Dean of College of Engineering

General Advisers:

W. M. Lansford, Adviser
R. J. Beals, Assistant Adviser

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Gordon Booz	James Roberts	Robert Pounds
Henry Spies	Leon Schnepper	Frank Fishman
Don Tolly	Frank Vileta	Charles Wade
Bob Schwaar	Jim Horn	Eric Aagaard



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1953

ENGINEERING OPEN HOUSE

PRESENTED BY STUDENTS
AND FACULTY

AT THE UNIVERSITY OF ILLINOIS



Greetings!

I'm happy to welcome again the guests at our Engineering Open House. It is a privilege I've enjoyed for many years—one to which I always look forward. On behalf of our students and faculty, whose cooperation makes the 1953 Open House possible, I wish you an enjoyable time.

I hope, too, that you will learn something of the way a great engineering college operates.

The things anyone sees most readily are the buildings and the physical equipment. We at Illinois are proud of these, and we trust you will inspect them as thoroughly as time allows.

But the most important things about any college and university are those that you can't see—the intangibles. I mean the abilities of the student body and the faculty, and the spirit in which students and teachers work together. While these things themselves are not visible, their results are. One of these results is the Open House. As you look at the many exhibits that make it up, we hope you will give thought to the *esprit de corps* which brought it about.

Please feel free to ask students or faculty members questions, not only about the displays and exhibits but about our everyday operations, our courses, our extra-curricular activities, the kind of jobs that our alumni do. And remember that we want you to come back as often as possible and get to know us even better.

W. L. EVERITT

Dean, College of Engineering

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ENGINEERING
LIBRARY

ROUTING

The proposed route for the Open House visitors has been set up in the form of a circle, so that no matter which building a group starts at, they may follow the route and be sure of seeing every exhibit. The route is shown by footsteps on the map in the center pages of this program.

INFORMATION

The central headquarters office for the Engineering Open House is located on the basement floor of the Electrical Engineering building. If you wish any information or have any questions concerning the Open House you may stop there or at any of the information desks located at the entrance of every building.

Located on the basement floor of the Civil Engineering Hall is an information office for information on entrance requirements, programs for the various departments, and other points of information valuable to prospective students at Illinois. Do not hesitate to ask any of the instructors or staff members present any questions you have about enrolling at Illinois.

REGISTRATION OF VISITORS

In order to help in the planning of future student engineering programs, attendance sheets have been placed at the information desks in each building. If you did not register when you received this program please go to an information desk and do so.

Any suggestions or comments, good or bad, will also be appreciated and may be placed in the boxes at the information desks.

LUNCH STANDS

For the convenience of all attending the 1953 Engineering Open House there will be lunch stands serving soft drinks, hamburgers, hot dogs, ice cream, potato chips, and Whiffen Chips. The lunch stands will be located at 8 East Chemistry, Unit Operations Laboratory; 6 Aeronautical Laboratory "B;" and the Lounge of the Mechanical Engineering Building. There will be signs to guide visitors to these refreshment stands.

BUS SERVICE

Free bus service will be furnished from the Engineering campus to exhibits on the outlying campus. These exhibits include Chemical Engineering, Agricultural Engineering, Abbot Power Plant (U of I power generating plant), and the Betatron Building. The bus will leave the west side of the Electrical Engineering Building and the east side of the Physics Building five minutes later for a complete tour every hour and half hour. These stops are marked on the map and signs will be posted at each stop.

ELECTRICAL ENGINEERING

Come one, come all, see the wonders of the ages! See a real flying saucer—no strings, no motors, but it flies; see corn being popped on dry ice; see a really simple motor—bailing wire, a tin can, but no hair pins; see a self-reversing motor—good washing machine motor material; see real man-made lightning; see a TV camera and receiver setup—if it were only that simple; see radar in operation; see the stroboscopic light—it stops motion; see any pattern you cut out of a piece of cardboard reproduced electronically; watch photo tubes perform—they're better than people.

If you really want to be bright, see the lighting show. Learn the history of lighting, see a multitude of different lighting fixtures, see shadows play tricks on your eyes, see what effects lighting has on you and your daily life, see beautiful black light colors, look at the effects of polarization and prisms.

If you want to do things, try to pit yourself against these electrical devices. How dynamic are you?—test it on the machine which tests human power. What is your osculatory potency? test it on the Kissometer; ummm! Are you color blind?—test yourself and see. Write with a stream of electrons on the Ghost Writer. Send a message anywhere in the U. S. from the amateur radio station in operation. Try to beat an electronic brain in the take-away-a-ball game. Try your hand at driving a nail or throwing a ring at a peg—it's easy if you know how.

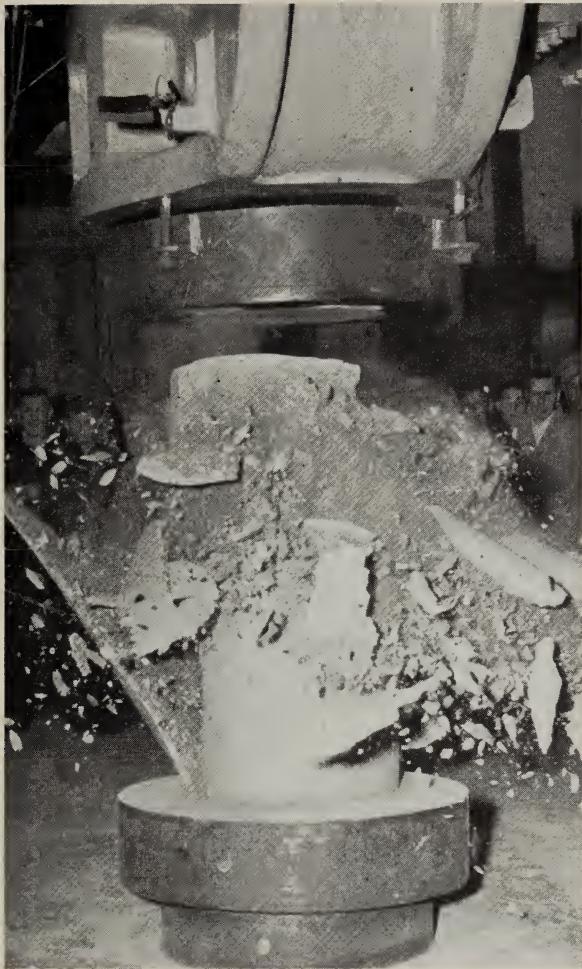
If you are more technical minded, see research in Electrical Engineering actually going on. Yes, come one, come all; there's enough for all to see and do.

TALBOT LABORATORY

The Department of Theoretical and Applied Mechanics will test a huge concrete cylinder once an hour on the half hour. The explosive like failure, shown below, will actually shake the building. The testing machine which will be used is more than four stories high and has a capacity of 3,000,000 lbs. It is the largest testing machine of this type in the Middle West.

Amaze your friends by showing them that you can bend a 2½ inch round brass beam with your little finger. An extremely sensitive electrical device is used to measure very small amounts of bending and will prove that you can bend the beam with your little finger.

See water flowing in a glass-walled flume suddenly jump upwards into the air and form a nearly vertical wall of water. This extremely



interesting phenomenon is known as the "hydraulic jump," and can be seen in the hydraulics laboratory along with other interesting demonstrations and experiments pertaining to the flow of fluids.

FOUNDRY

Main Floor—Making of sand molds, casting of cast iron, aluminum, and brass. Souvenirs will be distributed. Basement—Core making and drying, sandblasting. Sand Testing Laboratory—testing of various properties of molding sands. Cast iron will be poured at 7:30 P. M. and 9:00 P. M. Friday.



AERONAUTICAL ENGINEERING LABORATORIES

The Aeronautical Engineering Department will display items which play an important part in the fields of instruction and research.

There are various means by which the flight characteristics of a body may be studied. The wind tunnel allows for the measurement of lift and drag of airfoils at various speeds; the smoke tube presents a visual picture of the flow of air about a body by means of smoke streams; the shock tube permits the study of air flow and pressures about a body at supersonic speeds; and the Schlieren photographic process is used to record the pressure distribution in the shock tube. There will be on display an LK glider used by the U of I Glider Club in its work.

The study of structural problems is facilitated by the landing gear drop test which is used to insure the design of sufficiently strong members; the hydraulic testing machine with which stresses in test members may be studied; the torque box which permits the study of the forces on a member when it is twisted; the photoelastic process shows the stress distribution in an airfoil by means of polarized light; and the measurement of the dynamic forces in a structure with continually changing load.

For the propulsion section there will be on display a group of complete and cutaway engines from past and present aircraft. These will include the world's largest pulse jet, German rocket engines, the

first turboprop engine, a J-35 turbojet engine, and a R-2850 reciprocating engine. Also on display will be the first design model of a valveless pulse-jet and beside it the latest in the series, both of which have been conceived and designed by Prof. McCloy of the Aero. staff.

There will also be on display typical design and classroom work from courses offered in the Aeronautical Engineering curriculum.

MECHANICAL ENGINEERING LABORATORY

MECHANICAL ENGINEERING

Power Laboratory—educational unit power plant, cutaway of an aircraft jet engine, air conditioning test apparatus, motorist reaction timer, running of Otto engine. Physical Environment Laboratory—high altitude chamber. On the main floor will be a display of home heating test equipment and special research instruments.

AGRICULTURAL ENGINEERING

Due to the distance the Agricultural Engineering buildings are removed from the main engineering campus, special exhibits showing the application of engineering principles to agricultural problems will be displayed in the southwest section of the Mechanical Engineering Laboratory. The exhibit will include displays of:

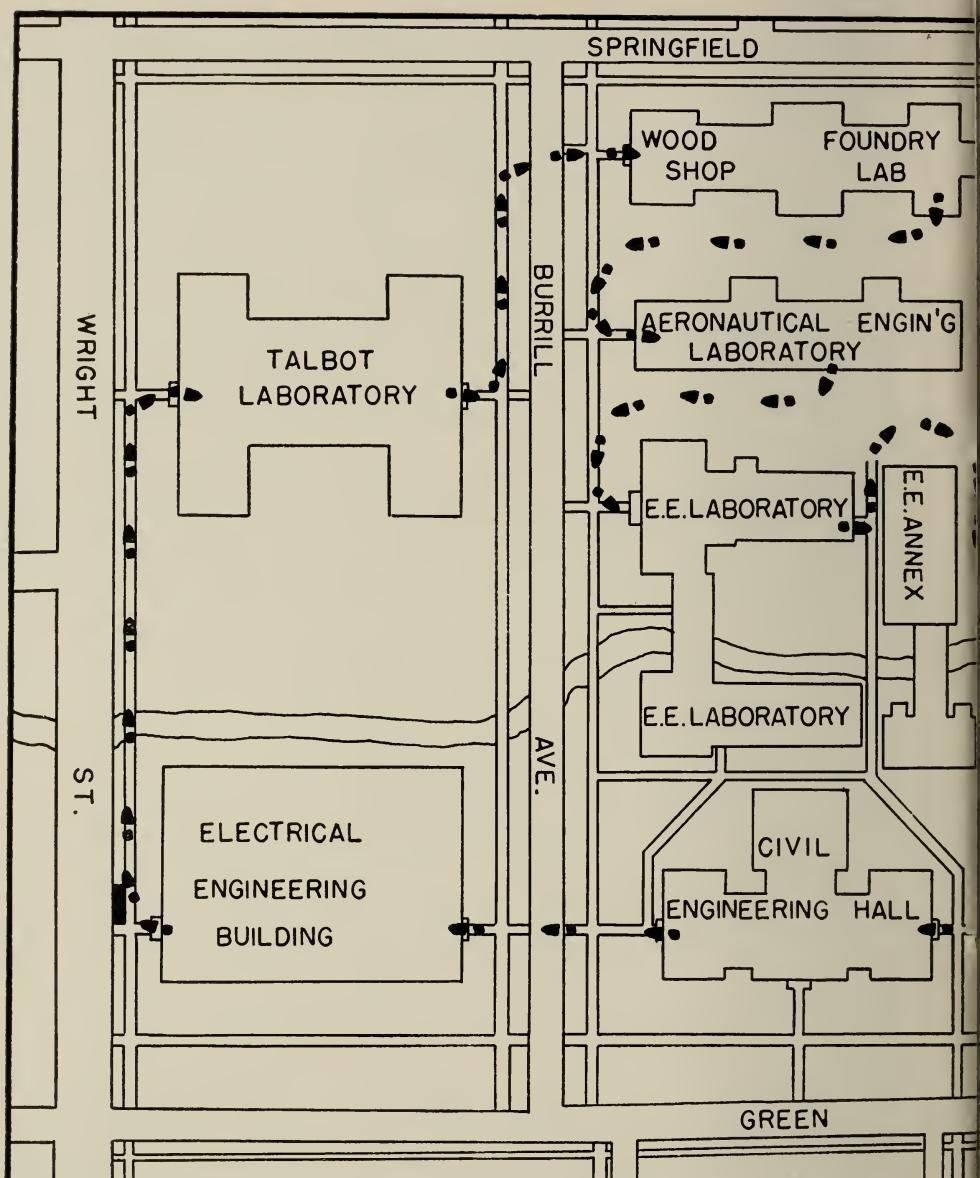
- Farm Mechanization
- Rural Electrification
- Agricultural Architecture
- Irrigation, Drainage, and Soil Conservation

The Agricultural Engineering Research Laboratory and class room buildings on the south campus will be open to the public during the Open House. Ample parking facilities adjoining the buildings, free bus service from the Engineering campus, and conducted tours of the Agricultural Engineering Buildings will be provided.

TRANSPORTATION BUILDING

Although few engineers ever become professional draftsmen, the mastery of the principles of Engineering Drawing is essential for the work done by any type of engineer. It is indispensable as a means of conveying ideas for structures and machines. It is, indeed, the engineer's language. Its signs and symbols are being standardized to facilitate the exchange of plans and ideas, not only throughout the United States, but on an international basis as well.

Exhibits shown by the General Engineering Drafting Department will include the following: Industrial Production Illustrations—work done in the student course, Demonstration of the Airbrush; Aircraft Drafting and Lofting; Slide Rules—fifty different types; New Methods



■ BUS STOP

BUS LEAVES EVERY 20 MINUTES FOR CHEMICAL E
AGRICULTURAL ENGINEERING, BETATRON, AND ABO

/E.

ENG.
RESEARCH

MECHANICAL
ENGINEERING
LABORATORY

PHYSICS
LABORATORY

ENGINEERING,
POWER PLANT.

MATHEWS

AVE.

RAILWAY WHEEL
TRANSPORTATION
BUILDING

MECHANICAL

ENG'G
BUILDING

MINING
LAB.

METAL-
LURGICAL

CERAMICS
KILN HOUSE

AERO. ENG.
LAB.

CERAMICS
BLDG.

CYCLOTRON
LAB.

GOODWIN
AVE.

AVE.

ST.

ILLINOIS AVE.

CALIFORNIA AVE.

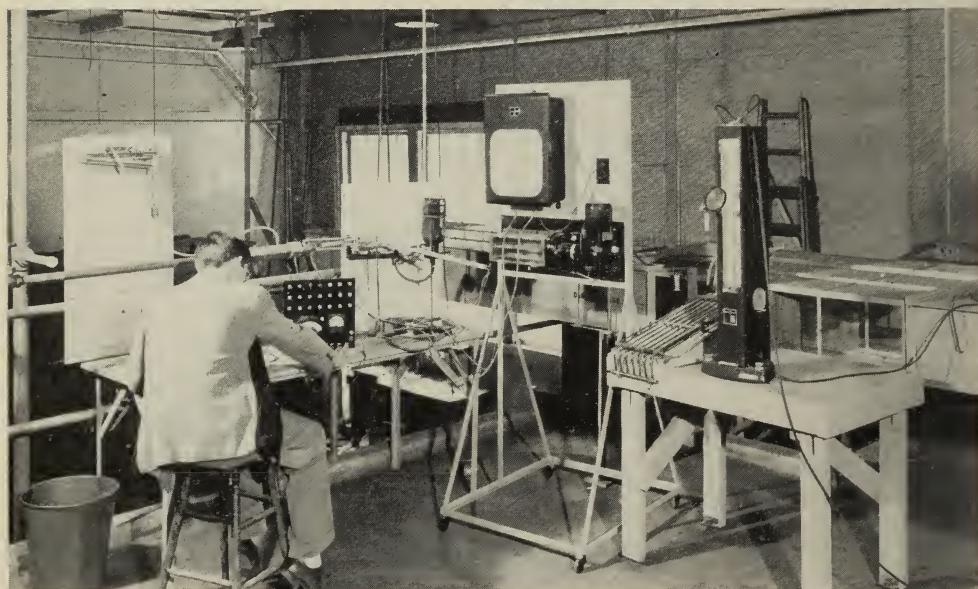
CHEMICAL ENG'G
BUILDING

of Reproducing Engineering Drawings; Display of nineteen Patent Drawings which have changed civilization.

MINING LABORATORY

The feature attraction of the Mining Department will be nine scale models of various mining methods including open pit, block caving, room and pillar, and square set methods. A tour will be conducted of the mine ventilation laboratory, one of the most modern in the country, showing mine ventilation apparatus, mine safety lamps, detection of gases, and gas analysis equipment. Exhibits of diamond drilling, particle sizing using a glass infrasizer, a model of a mine, and a display of important minerals.

Demonstrations will illustrate oil froth flotation method of separating galena, sphalerite, and limestone; coal preparation by washing and flotation of coal fines; the explosibility of coal dust using coal dust, ordinary flour, and sulfur; and how photo-elasticity is used to determine the stresses around mine openings. Movies of mining and metallurgical operations will be shown.



METALLURGICAL LABORATORY

Metallurgy is a little known yet extremely important field of engineering. It may be divided into two sub-groups, extractive metallurgy and physical metallurgy. Extractive metallurgists worry about winning metals from their ores while the physical metallurgist (the curriculum at the Univ. of Ill. favors the physical metallurgist) worries

about the properties, both physical and chemical, and the proper end uses for these metals.

Films on the extraction of metals from their ores and the fabrication of these materials into useful forms will be shown. In the furnace room, steel and aluminum will be melted and cast into ingots, the effects of heat treating these metals will be demonstrated, and a high-frequency electric furnace which operates at temperatures around 3000 degrees F. will be shown.

Inspection procedures used in the quality control of industrial products will be shown. These include a Magnaflux machine which can "see" inside a piece of steel, a cut-off wheel which cuts through metals at high speeds, and a series of microscopes and specimens which illustrate, at magnifications up to 1000 times normal size, the steps in polishing metal specimens, and spark testing.

Metals have sense appeal—hear metal cry out loud, feel cold metals become mysteriously warm while being held in your hand, see metal being plated from solution.

RAILWAY WHEEL LABORATORY

Learn how tests are made on railway wheels in the Railway Wheel Laboratory in order to provide smoother and better riding for you in the future. Car wheels are tested in the laboratory under more severe conditions than they are subjected to in regular service.

CERAMIC ENGINEERING LABORATORY

The Ceramic Engineering exhibit will be presented in the following divisions:

Glass—showing the development of glass properties through research and engineering into the versatile material which is basic to our civilization.

Enamels—depicting the values of porcelain enamels to the individual, including demonstrations of enamel applicability.

Structural Clay Products—showing typical structural clay products which have added to the advance of our present-day civilization.

Whitewares—showing the steps in making dinnerware and demonstrating the important properties of ceramic whiteware, including electric porcelains.

Refractories—illustrating linings in blast furnaces, glass tanks, etc., together with sample refractory materials and examples of their uses.

MECHANICAL ENGINEERING BUILDING

Tool Design Laboratory—display of tools and production plant layouts. Machine Design Laboratory—photoelastic stresses in gear teeth, fatigue of metals as seen under a microscope, balancing machines, lubrication models. Motion and Time Study Laboratory—work station layouts and movies to show time study techniques.

Welding Laboratory—gas welding and cutting, arc welding, metal spraying, and tests of welds. Machine Tool Laboratory—machine tools, demonstrations of operations of special machines, and machining parts for small engines. Heat Treatment Laboratory—heating steel by induction heating, heating and quenching of steel, and temperature of a match flame. Also, the microstructure of various metals and testing and hardness of metals.

Internal Combustion Laboratory—performance testing of standard automotive and diesel engines on dynamometer test stands. Also a cutaway automobile chassis with moving parts will be shown. The following test engines will be operated: diesel and gasoline engines with variable compression ratios and an airplane engine at various simulated altitudes.

PHYSICS LABORATORY

The Physics Department cordially invites all Open House guests to visit the exhibits which have been set up in the Physics Laboratory for their instructive enjoyment. The exhibits will be highlighted by a half-hour lecture—demonstration given every hour. Many varied physical phenomena will be presented and explained.

The actual exhibits will include experiments in low temperature physics featuring “the coldest stuff on earth”—liquid helium, in the effects of magnetic fields, and in the conservation of angular momentum (this one will throw you!).

In addition we are particularly proud to present two extensive displays, one dealing with polarized light and the other with the modern physics of atomic and nuclear energies. Also included in the exhibit will be a cloud chamber and natural and artificially produced radioactivity.

The Physics Department will also present conducted tours through the Nuclear Radiations Laboratory (Cyclotron Building).

CIVIL ENGINEERING HALL

CIVIL ENGINEERING

Civil Engineers do many different kinds of work. This is evidenced by their presence at practically all types of engineering projects. With the following exhibits we will try to show you just what a civil engineer does.

Surveying equipment is necessary to determine the location of highways, bridges, large machinery, and buildings. Surveying equipment—old and new—is the subject of one of our exhibits. In foundation work, the type of soil at the job site is of great importance, and the soil samples shown in our exhibit are a great aid in foundation design. The problem of construction procedure and the equipment to be used is a major concern to the civil engineer. The civil engineer selects and supervises the operation of the construction equipment shown in our exhibit. Many of the steel trusses and concrete beams and floors you have seen and walked on have been designed by the civil engineer. Some of the typical design problems are on display in the form of student problems. Transportation is a major problem for the civil engineer, and some of the tests and equipment used in traffic engineering, as well as a history of railroad rails are shown in the Civil Engineering exhibit. Yes, the civil engineer is concerned with many types of work, as will be shown by movies depicting the numerous phases.

SANITARY ENGINEERING

The Sanitary Engineering exhibit, housed in the Civil Engineering Hall, may be located by the attractive and interesting piece of work outside of the room which will interest the spectators and perhaps persuade more people to come in and view our exhibit. Inside the room there will be a motion picture that will play continuously. This projector, the type which shows in a lighted room, will present an interesting picture on public health.

On the various design tables located throughout the room, there will be layout designs of sewage and water treatment plants. These are the problems done by the students in Sanitary Engineering and should prove of great interest, particularly to the visiting high school students.

A typical sewage treatment plant in miniature will be on display in the room.

Outside of the Civil Engineering Hall there will be parked a mobile laboratory unit that the State of Illinois Public Health Depart-

ment has graciously consented to let us use. In this laboratory there will be students demonstrating various techniques used for detecting stream pollution.

CHEMICAL ENGINEERING BUILDING

First stop—the information table for routing slips and other general information.

A cone crusher, jaw crusher, and screening equipment will be operated to illustrate the treatment of ores prior to their chemical treatment. The use of radioactive tracers in research to study the diffusional properties of various elements and compounds will be shown. An absorption tower will be operated to illustrate the principle of continuous separation of a mixture of two gases, one of which is water soluble. A continuous rotary filter exhibit demonstrates the continuous separation of solids dispersed in a liquid phase, such as is used for starch-water separation. A ten foot by four inch diameter all glass liquid-liquid extraction tower packed with Berl saddles will be operated to show the method of separation of two liquids whose near boiling points preclude separation by distillation. An actual distillation in an all glass, bubble cap, distillation tower will be run to illustrate the method of continuous separation of multicomponent mixtures. An all glass, long tube evaporator will be used to demonstrate the method of concentration of heat sensitive materials. Milk will be concentrated and free samples will be given. Another exhibit shows the actual methods of production and control of a typical antibiotic and its bacteria control.

Movies on Petroleum Refining will be shown at 9:30 A. M., 10:30 A.M., 1:30 P.M., 3:30 P.M., and 7:30 P.M. in the Auditorium, Room 116 E. Chem.

R.O.T.C. EXHIBITS

The Army, Navy, and Air Force Reserve Officers Training Corps Units will have exhibits and training aids at various points along the Open House route.

ALSO DON'T MISS THESE

The power plant of the University will be open for general inspection. Regular tours continuously during the Open House. The Physics Department will give conducted tours through the famous Betatron Laboratory.



PARKING FACILITIES

Parking stickers for cars and buses will be available at the Open House Central Headquarters in the basement of the Electrical Engineering Building. These stickers will allow you to park on any University parking lot. For the latest parking information please contact the Central Headquarters immediately upon arrival.

THANKS

A project such as the Open House requires much time and labor and we wish to thank all of those students and faculty whose efforts have made it possible. A special vote of thanks goes to Ron Arnold, who designed and produced the cover, and Frank Vileta, who drew the routing map on the center pages. We also extend our thanks to those firms who contributed equipment and exhibits for the Open House.

ENTERTAINMENT AT FOUNDATIONS

Several of the religious foundations on the campus are planning entertainment for Open House visitors. For further information check at the central headquarters.

OPEN HOUSE PERSONNEL

Chairman..... BOB SCHRADER
Secretary-Treasurer..... HAROLD HARPER

CENTRAL COMMITTEE

PHYSICAL ARRANGEMENTS

Martin Goldstein, co-chairman
Robert Hardin, co-chairman
Don Judd, Transportation
Robert Schaefer, Room Reservations
Robert Carper, Lunch Stands
Roger Funk, Signs
Floyd Kruenegel, Special Effects

SPECIAL ASSISTANT, Dick Chester

PROGRAM

Gordon D. Booz, Chairman
Maurice Boenitz, Awards
George Zurbier, Program
Richard Cole, Routing

PUBLICITY

Melvin Rudich, Chairman
Pat Bremer, High School
James Fischer, Local
Dick Reichel, Navy Pier
Arden Degner, Papers and Periodicals

Advisers exofficio

W. L. Everitt, Dean of College of Engineering
S. H. Pierce, Assistant Dean of College of Engineering
L. A. Rose, Director of Engineering Information and Publications

EXECUTIVE COMMITTEE

Frank Vileta	Don Lathrop
Jack Burk	Robert Meyer
Sam Shafer	Robert Watson
John Merle	John Fortman
Robert Stasell	Earl Sloan
Stanley Appelt	Garland Riley
Dick Sloan	

FACULTY ADVISORS

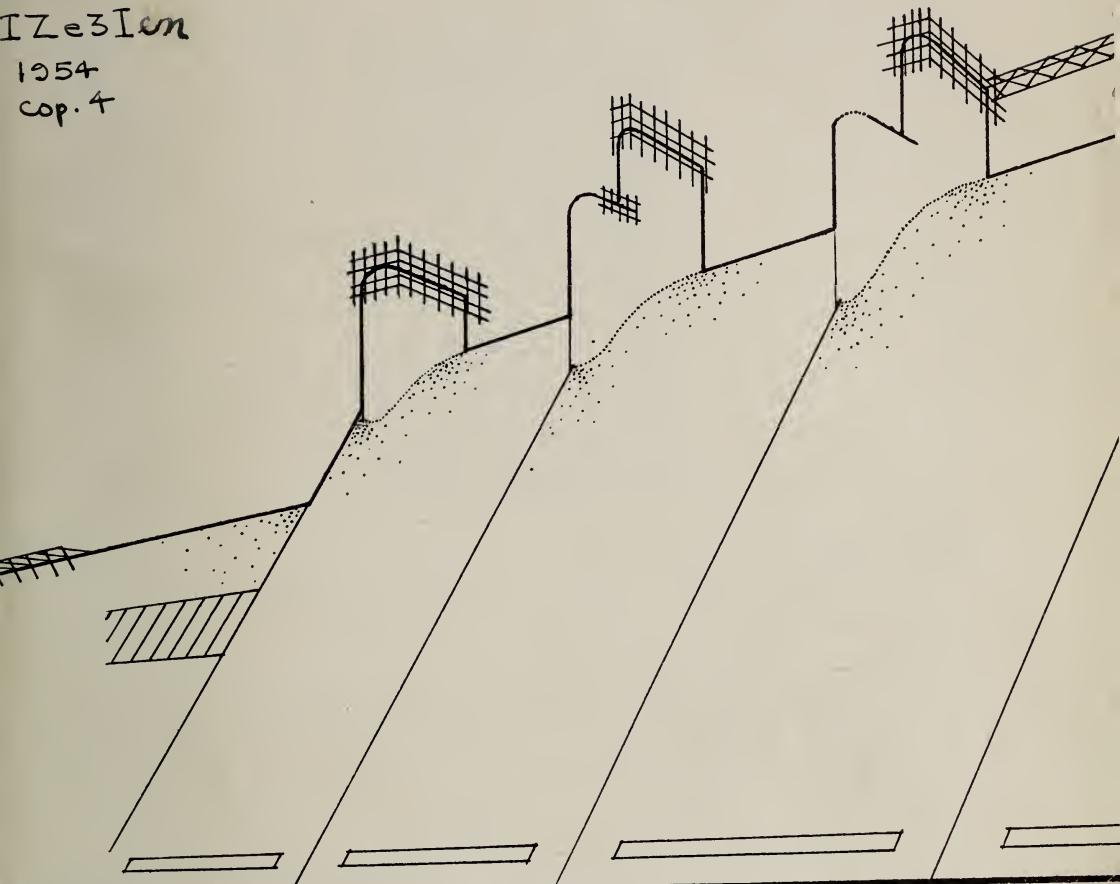
J. E. Williams, Chairman	C. E. Kesler
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R. K. Finn	J. H. Smith
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ENGINEERING

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OPEN HOUSE

presented by
STUDENTS AND FACULTY
at the
UNIVERSITY OF ILLINOIS

be seen
by

Ma
by a
special
engineering

WELCOME TO OUR SHOW . . .



Greetings!

This is the fourth time I have written that word of welcome to those attending the Illinois Engineering Open House, and on each occasion I write it with real pleasure.

For we are glad to have you with us. We want you to see our many buildings and extensive equipment. We want you to talk to our faculty and students. We want you to ask questions freely. We want you to have fun at the same time that you increase your knowledge of what engineering is, and of how the University of Illinois College of Engineering operates.

There is one disadvantage of the Open House. It is this: The most important thing about any college of engineering is what cannot be seen — what can't be made visible. I mean the spirit that animates the engineering profession and that inspires the young men and women who are your hosts this week end.

This spirit is compounded of many elements. One is creativeness. Another is sound practical judgment. Others are initiative, ability to cooperate with your fellows, and a desire to serve society. If this spirit is lacking, then no buildings however many and fine, no equipment however extensive and varied and modern, can avail in helping to produce good engineers and citizens.

But at Illinois, we believe, that spirit pervades our engineering work. The result is that our faculty and students make the most of the outstandingly excellent facilities which the people of the State have given us in trust, to use for their benefit, and that of the nation as a whole.

I hope, then, that you will not only inspect a host of interesting and informative exhibits, but that you will also think of the spirit behind them — the spirit of sound creative thinking, esprit de corps, cooperation, and service.

I hope, too, that this spirit, as well as the fine physical facilities of the University of Illinois, will lead you to visit us again, not only once but often. You will always be heartily welcome.

W. L. EVERITT
Dean, College of Engineering

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LIBRARY

... HERE IS SOME INFORMATION . . .

Before we start on our tour through the numerous exhibits, here are a few notes intended to help make your visit more pleasant.

TIME OF OPERATION

The Open House exhibits will be presented from 10 A.M. to 10 P.M. on Friday, March 26, and from 8 A.M. to 4 P.M. on Saturday, March 27.

INFORMATION

The central headquarters office of the Engineering Open House is located on the basement floor of the Electrical Engineering Building. If you wish any information concerning the Open House, you may stop there or at any of the information desks located at the entrance of every building. At the central headquarters information on entrance requirements, programs for the various departments, and other points of information valuable to prospective students at Illinois is also available. Do not hesitate to ask any of the instructors or staff members present any questions you have about enrolling at Illinois.

PARKING

Parking stickers for cars and busses are available at the central headquarters in the basement of the Electrical Engineering Building. These stickers will permit parking in any University parking lot. For parking information contact central headquarters upon your arrival.

REGISTRATION OF VISITORS

Visitor registration sheets, which are a great help in planning our future programs, are placed at the information desks in each building. If you did not register when you received this program, please go to the nearest desk and do so. We also would greatly appreciate your comments and suggestions on any phase of the Open House program. Please place them in the special boxes provided at all the information desks. Thanks!

LUNCH STANDS

Lunch stands serving soft drinks, hamburgers, hot dogs, ice cream, and potato chips will be located along the Open House route for your convenience. The stands will be located in the M.E. lounge and 6 Aero Lab "B". There will be signs to guide you to the stands.

PARADE

This year's Engineering Open House parade will be held on Friday, March 26 from 12:30 to 1:00 P.M. The parade is composed of floats entered by the various engineering societies and will follow a route encircling the campus. A special feature of the parade is an Engineering Band consisting entirely of engineering students. Be sure not to miss this part of the program!

... AND THE EXHIBITS . . .

ROUTING

The route of the visitors covering the engineering campus has been arranged in the form of a circle. Thus you may start at any building, and by following the routing arrows you will successively see every exhibit. The map in the center pages of this program indicates this route by a dash line. Now here is the list of the various exhibits in the order of routing:

ELECTRICAL ENGINEERING BUILDING

This is the center of our extensive Electrical Engineering department. Here you will see continuous demonstrations of many miracles of electricity and magnetism. There also will be periodical demonstration lectures on topics from this phase of engineering.

Among the interesting displays that you will see are actual flying saucers — no strings, no motors; but they actually fly! You will see a magnetic cannon in operation. It throws projectiles thirty feet or more.

If you have always wanted to be on television, here is your chance to see yourself on TV. You will see and hear an amateur radio station in operation, the radar display, and musical tones converted to soothing hues by the Color Organ. Have you heard of radio-controlled automobiles? You will see in operation a vehicle which is completely controlled by radio waves.

Don't miss the lighting show. See the beautiful effects produced by black light. Learn how lighting affects your everyday life; see a multitude of different lighting fixtures.

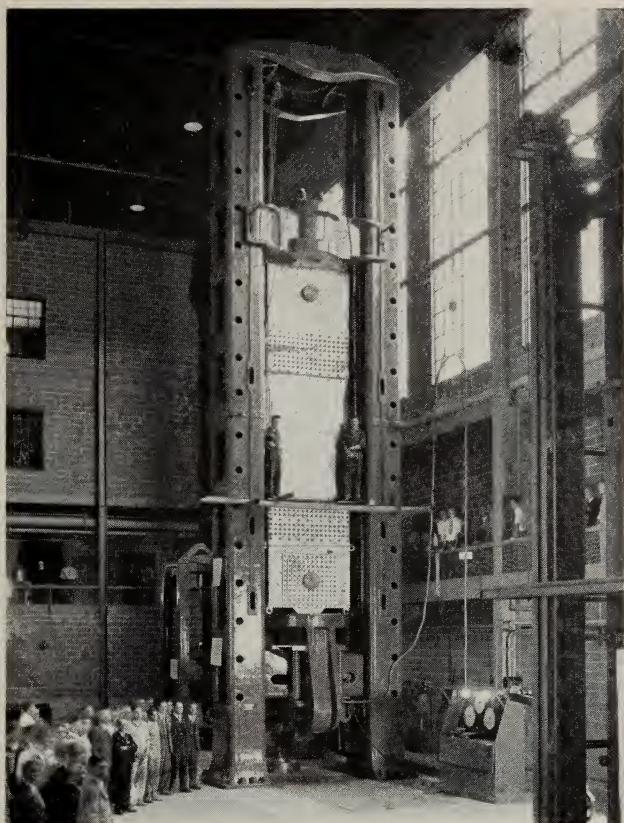
If you want to do things, try to pit yourself against electrical devices. Try the machine to test human power instead of horsepower. Bring your best girl and try the Kissometer! Write your initials with a pencil of electrons on the Ghost Writer. Try your hand at driving a nail; it's easy if you know how!

See these and many other astonishing exhibits in the Electrical Engineering display!

TALBOT LABORATORY

The Arthur Newell Talbot Laboratory houses the department of Theoretical and Applied Mechanics and some portions of the Civil Engineering department. It is the outstanding building of its kind in the country.

The department of Theoretical and Applied Mechanics will test a large concrete cylinder once an hour on the half hour. The explosive-like failure, shown below, will actually shake the building. The testing machine which



will be used is four stories high and has a capacity of three million pounds. It is the largest testing machine of this type in the middle west.

See water flowing in a glass-walled channel suddenly jump upward to form a nearly vertical wall of water. This extremely interesting phenomenon is known as the "hydraulic jump." Also see, in operation, the pumps, turbines, weirs and a water tunnel which are used in laboratory classes in Fluid Mechanics.

Future engineering students, see the twenty-minute color movie illustrating actual classes in Mechanics that all engineers attend. See a sample of the work included in the teaching and the research programs — every hour on the hour.

Amaze your friends by showing them that you can bend a $2\frac{1}{2}$ -inch round brass beam with your little finger. An extremely sensitive electrical device

is used to measure very small amounts of bending and will prove that you can bend the beam with your little finger.

See a rapidly vibrating metal bar "stopped" instantly by a beam of light. Vibration measuring instruments, operating models of various vibration systems and a gyroscope will be on display.

Produce color by change of force — operate the colorful photoelastic display.

See solid lead squeezed through a small hole to form a slender lead ribbon in a typical class demonstration of the extrusion process of forming structural metal members. Other class activities that will be in operation include pulling steel bars in two and crushing wood blocks.

Metals get tired too — climb to the top floor and see (a) metals fractured by many millions of repetitions of load in the Fatigue of Metals Laboratory and (b) metals fractured after many years of steady load at elevated temperature in the Creep of Metals Laboratory.

Research in Structural Engineering, a part of the Civil Engineering department's program, is concentrated in the two large crane bays of Talbot Laboratory, where you will see parts of large steel and concrete structures being tested. In the four large 200,000-lb. fatigue machines, bridge members can be loaded in days with loads which represent fifty years of service in a bridge. These tests as well as the many others in progress are designed to provide everyone with safer and more economical bridges and buildings.



FOUNDRY

The foundry is a part of the Mechanical Engineering department. On the main floor see demonstrations of the casting of iron and the making of sand molds. Aluminum and bronze souvenirs will be available to the visitors.

In the basement core making and drying and sandblasting are performed, while various properties of molding sands are tested in the Sand Testing Laboratory. Gray iron will be poured on Friday evening beginning at 7:30 P.M.

AERONAUTICAL ENGINEERING LABORATORIES

Have you ever wanted to be behind the controls of an airplane? Wonder what the inside of a rocket motor looks like? Curious about shock waves? Then don't fail to stop in at Aeronautical Engineering Labs A and B, where you'll see these and many other interesting exhibits.

At Aero Lab A, see the wind tunnel in operation, a device which makes possible the measurement of lift and drag forces on an airfoil at various speeds. In Laboratory B, a smoke tunnel presents a visual picture of the flow of air about a body by means of smoke streams. At a nearby display, you can actually see shock waves generated by a supersonic-type airfoil. The huge shock tube, centrally located in Lab B, permits the study of air flow and pressures about a body at supersonic speeds; the Schlieren photographic process is used to record the pressure distribution in the shock tube.

Visit the Structures Testing Lab: See polarized light used to study the stress distribution in an airfoil; watch a hydraulic drop test of full-sized landing gear; and see the dynamic testing of other actual aircraft structures.

Be prepared for an ear-splitting roar as a tiny ram-jet, no bigger than your fist, bursts into life. See a cutaway model of the famous Walther rocket engine, which powered the deadly Luftwaffe interceptor aircraft of World War II. A multitude of power plants will be on display—the world's largest pulse jet, a valveless pulse jet developed at this University, the first turboprop engine, a J-35 turbojet engine (used in the famed Thunderjet F-84G fighter-interceptor), an R-2850 reciprocating engine, and many others.

A two-place glider, built and tested by members of the U. of I. Glider Club, will be displayed in Laboratory B. At the rear of this building, color films showing the latest developments in aeronautical research will be run at frequent intervals during the exhibit.

ENGINEERING RESEARCH BUILDING

Here for the first time in the history of our Engineering Open House you will be able to see the million-dollar *Illiac*, the electronic digital computer of the University of Illinois.

One of the few digital computers of its size in the United States and the world, the Illiac is one of the outstanding examples of the achievements of our College of Engineering. The Physics department will provide information on the construction and operation of the Illiac. You really can't afford to miss this display, now opened for the first time to the visitors of the Open House.

MECHANICAL ENGINEERING LABORATORY

In this laboratory you will see many of the most important types of power machines in operation, such as the Murray Corliss Steam Engine, a large Otto Gas engine, an Allis-Chalmers Corliss Steam Engine, a large Deisel engine, a Terry seven-stage steam turbine, and many others.

See the driver reaction-time testing machine. Test your own reaction time. Have you wondered just what makes a jet airplane go? See the cut-away J-33 aircraft jet engine. Don't miss the Physical Environment Laboratory — see the high-altitude test chamber.

TRANSPORTATION BUILDING

The Transportation Building contains the classrooms, drafting rooms, and offices of the department of General Engineering. Since drawings are essential for any engineering project as a universal language for the conveying and exchange of plans and ideas, every engineering student is required to obtain some proficiency in this field.

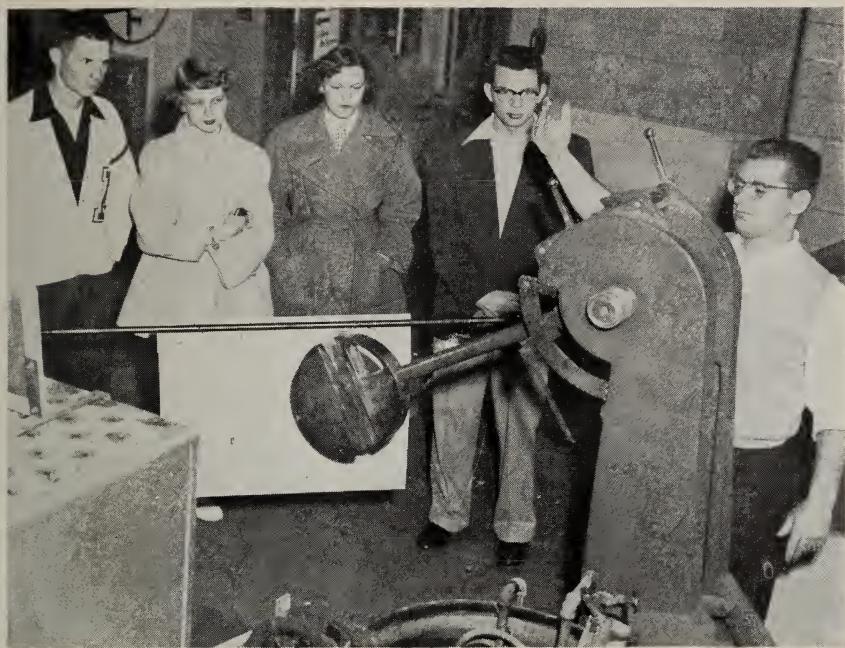
You will see exhibits of student drawings in the following courses: production illustration, descriptive geometry, machine drawing, architectural drawing, geological drawing, aircraft drafting and lofting, graphical computations, and perspective drawing.

There will be demonstrations of the use of the following drafting equipment: airbrush and doubletone, fifty different slide rules, lettering, machines, pantograph, ellipse machine, machines for reproducing drawings, black light, and scribing on plastic sheets.

MINING LABORATORY

In the Mining Laboratory of the department of Mining and Metallurgy, coal and its products will be on display with some mining equipment — mine ventilation apparatus, mine safety lamps, diamond drilling, particle sizing using infra-sizer, models of mining methods, important minerals of mining, and gas analysis equipment, its operation and use.

There will be demonstrations of the Separation of Minerals — Separation of galena, sphalerite, and limestone by oil froth flotation. Coal Preparation — Coal washing, and flotation of coal fines. Explosibility of coal dust — Causing coal dust, ordinary house flour, and sulphur to explode.



Photoelasticity — Its application in determination of stresses around mine openings. Movies of mining and metallurgical operations will be shown in Room 203 of Metallurgy Laboratory.

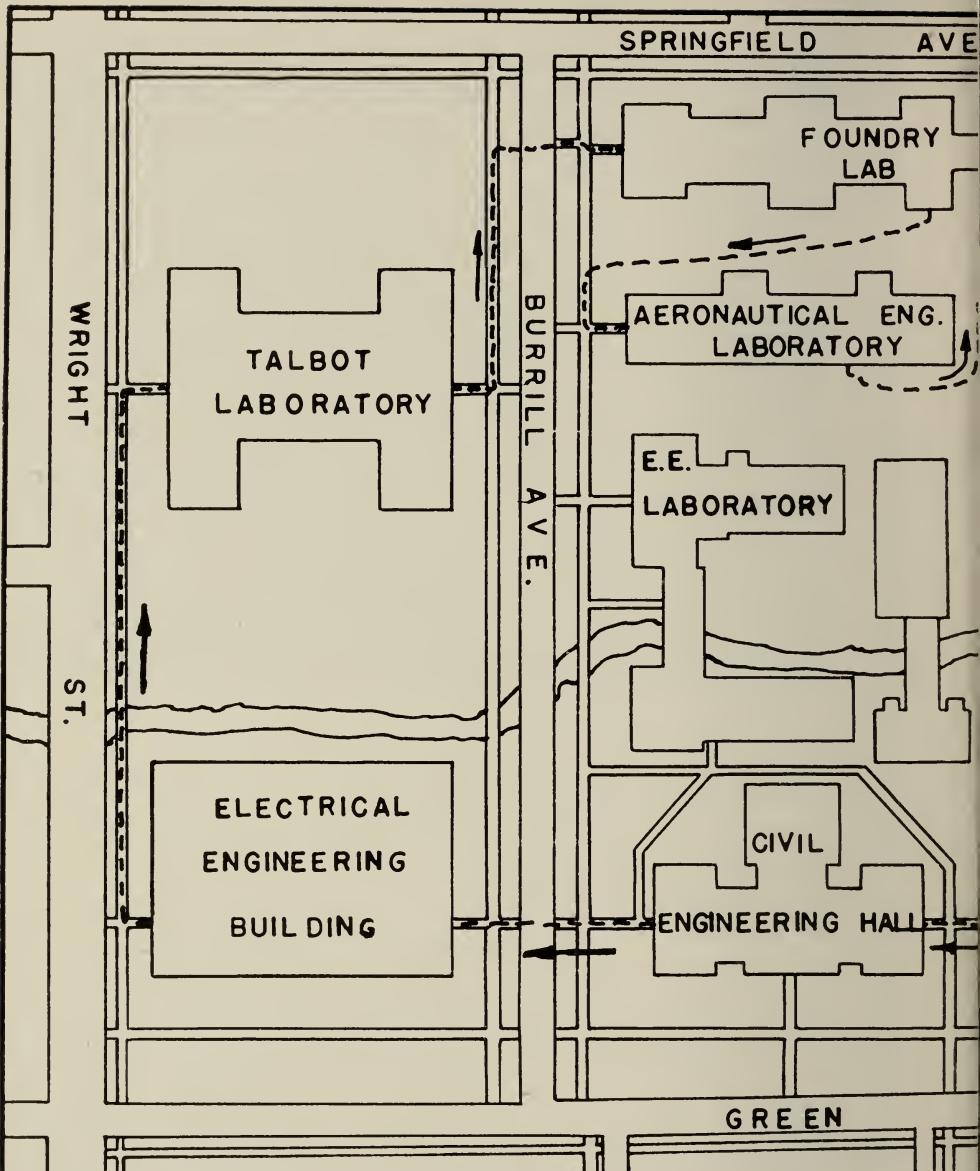
METALLURGY LABORATORY

The following displays will be presented: Structure of metals through a microscope, steel magnified one thousand times, brass cast at 2600 deg. F., steel shrinkage upon heating, magnetic inspection showing invisible cracks in metal parts, steel hardened by heat treatment. See metal run like water, feel cold metal mysteriously get hot while you hold it in your hand. Get a nickel-plated good luck piece, nickel-plated while you watch. Hear metal cry out loud! There will also be movies of metal production, forming, and heat treatment.

CERAMICS BUILDING

As its name indicates, this is the headquarters of the Ceramics Engineering department — little publicized, but, as you will see, a very important branch of engineering.

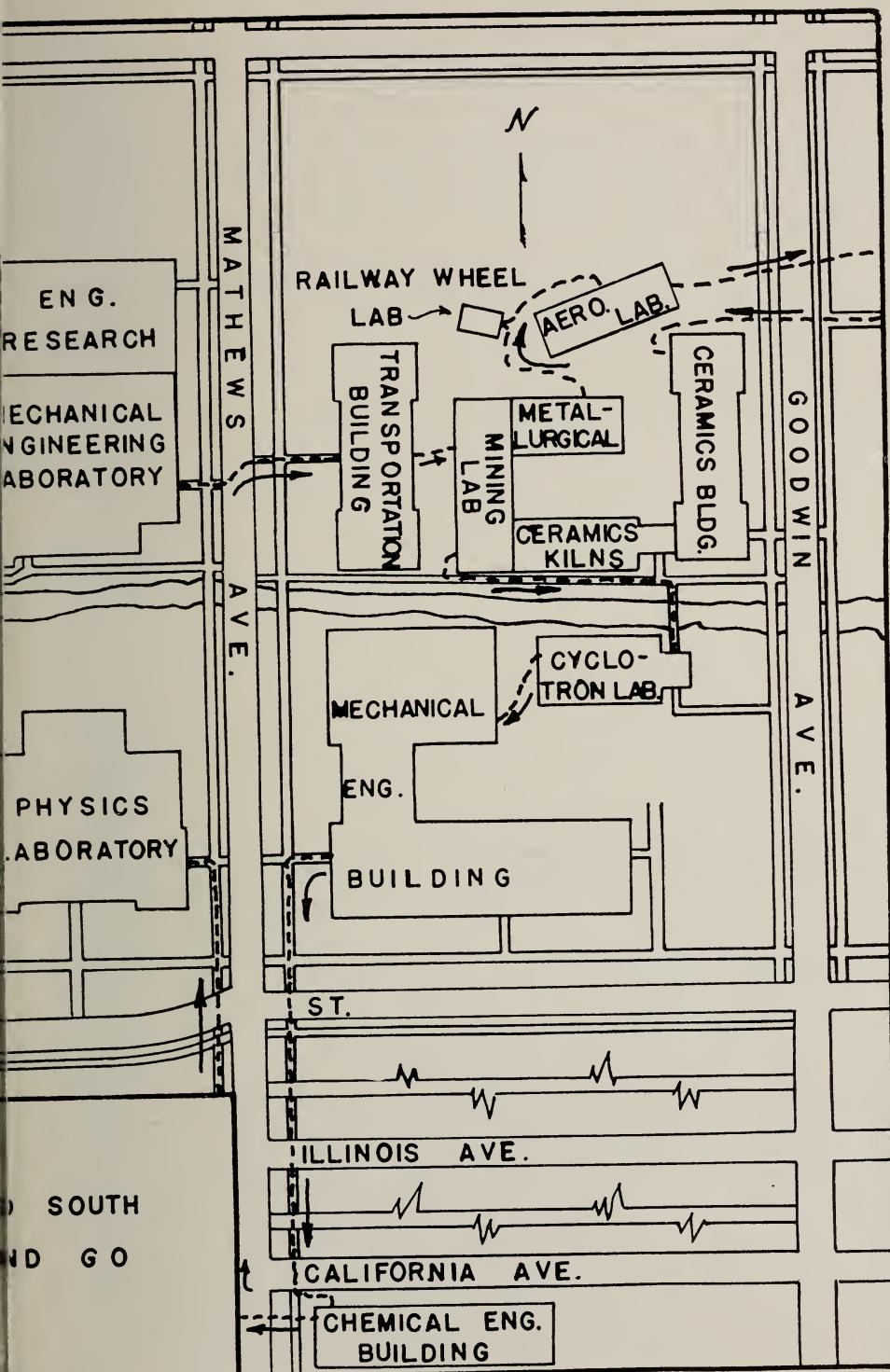
You will see the Ceramic Engineering exhibit of everyday ceramics presented in the following divisions: *abrasives* — depicting the processes involved in combining the abrasives and binders to form abrasive wheels,



ENGINEERING

CAMPUS

TO REACH BETATRON AND ABBOTT POWER PLANT,
TO THE END OF WRIGHT STREET, TURN RIGHT,
WEST TO THE END OF ARMORY AVENUE.



disks, and belts, *enamels* — illustrating the versatility of porcelain enamels and their value to the individual, including demonstrations of the application of the enamel to steel, *glass* — showing the results of the endeavors of the glass technologist to develop glass into the versatile material which is basic to our civilization, *refractories* — illustration linings in blast furnaces, glass tanks, etc., together with sample refractory materials and examples of their use, *structural clay products* — showing typical structural clay products which have added to the advance of our present-day civilization, and *whitewares* — showing the steps in making dinnerware and demonstrating the important properties of ceramic whiteware, including electrical porcelains.

NORTH CAR GARAGE (Agricultural Engineering)

Since the Agricultural Engineering buildings are rather far from the main engineering campus, a special exhibit showing the application of engineering principles to agricultural problems will be presented by the Agricultural Engineering department in the North Car Garage.

In this exhibit you will see displays of Farm Mechanization, Rural Electrification, Agricultural Architecture and Irrigation, Drainage and Soil Conservation.



CYCLOTRON BUILDING

The Cyclotron Building is a part of the Physics department. Here you will be able to see the famous University of Illinois cyclotron, a device used for the acceleration of particles in atomic and nuclear physics research. Guided tours will be conducted continuously through the building and you will actually see all the awesome equipment of modern research in physics.

MECHANICAL ENGINEERING BUILDING

In this main building of the department of Mechanical Engineering you will see the following exhibits of the many and varied phases of mechanical engineering:

In the Machine tool lab see machine tools, demonstrations of operations of special machines, and a punch press which will be stamping out souvenirs. In the heat treating lab you will see steel heated by induction and then treated. If you're interested in welding, you will see gas welding, torch cutting, arc welding, spot welding, and metal spraying in the welding lab.

In the internal combustion engine lab there will be on display standard automotive and Diesel engines on dynamometer test stands. You will see just how the horsepower rating is measured.

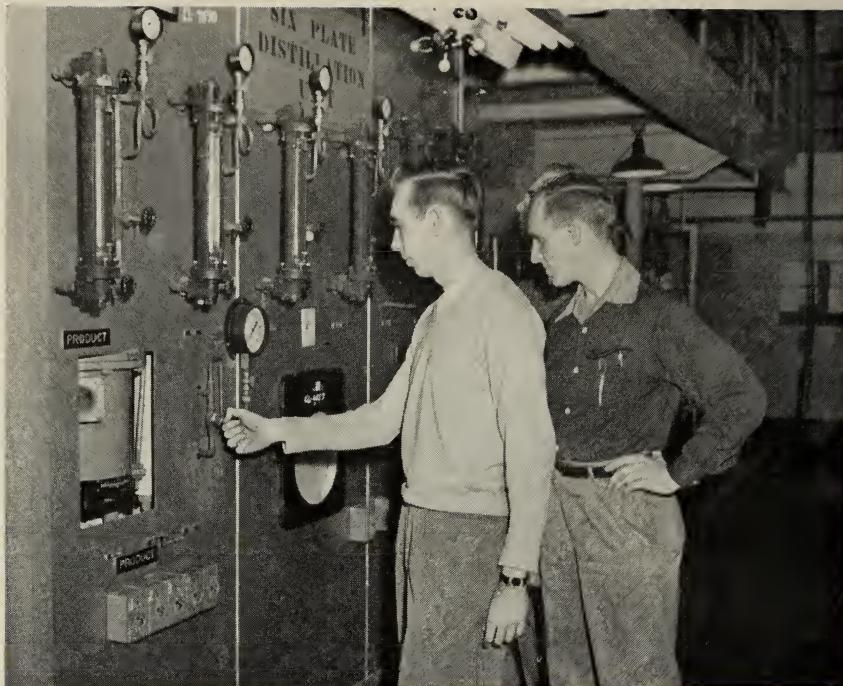
Scientific management will be on display in the motion and time study laboratory. Here you will see displays of the application of work simplification of many types of jobs. The necessary equipment to make methods-time analyses of work tasks is also shown with indications of its proper uses.

See the photoelastic stresses in gear teeth, the fatigue of metals as seen under a microscope, a balancing machine, gyroscope, and lubrication models in the machine design lab. You can also see a water table for fluid flow study in the thermodynamic research laboratory.

CHEMICAL ENGINEERING BUILDING

The home of the Chemical Engineering department also contains quite a few surprises for our visitors. Though it may sound unbelievable, an unheard-of public exhibition of the *conversion of energy into matter* will be in operation. Within a few seconds the size and weight of a piece of coal will increase over tenfold. This exhibit is only one of the many awesome displays which will compose a half-hour "Chemical Magic" extravaganza. (Show time — every hour on the hour.)

Individual displays of fundamental chemical engineering processes will also be in continuous operation. The treatment of ores prior to their use in chemical processes will be illustrated by the operation of a cone crusher, a jaw crusher, and screening equipment. An absorption column will be operated to illustrate the continuous separation of a mixture of two gases, one of which is water soluble. The continuous removal of solid particles from



a liquid will be accomplished with a rotary filter. The separation of two liquids whose near-boiling points make distillation impractical will be demonstrated with a ten-foot liquid-liquid extraction tower. An all glass, bubble cap, distillation column will be operated to illustrate the continuous separation of multicomponent mixtures.

A research project consisting of the study of the three types of boiling in a fluid will be on display. A fluidized bed, another research project, will be operated to demonstrate the suspension of a solid catalyst in a fluid as a means of achieving better fluid-catalyst contact.

The bioengineering division of the Chemical Engineering department will present an exhibit of fermentation processes.

Chemical engineering students will be available to discuss with all who are interested the possibility of choosing chemical engineering as a profession.

PHYSICS LABORATORY

In this stronghold of the Physics department the Physics Society of the University of Illinois welcomes you to the exhibits and demonstrations, designed and built by its members, of the various phases of applied physical sciences. These exhibits will acquaint you with the main fields of Sound, Light, Heat, Mechanics, and Electronics as well as Atomic and Nuclear

Physics. There also will be a high voltage display and a spectacular demonstration of low-temperature physics, as well as many other displays and demonstrations.

Besides the exhibits in the Physics Laboratory, the department of Engineering Physics also sponsors the exhibits in the Cyclotron and Betatron Laboratories and the exhibit of the *Illiac* in the Engineering Research Building, listed under those titles in this program.

CIVIL ENGINEERING HALL

In this venerable building of the Civil Engineering department, also housing the offices of the Dean of the College of Engineering and the Engineering Library, you will see the varied exhibits of the civil engineers.

The civil engineer is responsible for the design, construction, and surveying of buildings, highways, railroads, bridges, dams, airfields, canals, water and sewage systems, harbors, and tunnels. Since civil engineering covers such a broad field, the curriculum of the department is divided into options. These options include structural design, highways, railroads, construction, and sanitary engineering. Each of these options will present exhibits showing the procedures and equipment used in solving its problems. Surveying equipment and mapping procedures used in all phases of civil engineering will also be exhibited.

R. O. T. C. EXHIBITS

In addition to all other exhibits, the Army, Navy, and Air Force Reserve Officers' Training Corps Units will have exhibits and training aids at various points along the Open House route.

ABBOTT POWER PLANT AND BETATRON BUILDING

The power plant of the University will be open for general inspection. Here you will see power-generating machinery under actual working conditions.

Across the street from the power plant you will be able to visit the famous Betatron in the Physics Research Building. There will be guided tours with explanations of this famed research device. Be sure not to miss this extremely interesting tour through this scientific wonderland.

The power plant and the Betatron are located at Oak and Gregory Streets in Champaign on the southwest part of the campus and can be reached by going west on Gregory or Armory Streets to their termination. Armory Street begins at the south end of Wright Street.



... A GOLDEN ANNIVERSARY ...

HISTORY OF THE UNIVERSITY OF ILLINOIS ENGINEERING EXPERIMENT STATION

Shortly before the turn of the century, several members of the College of Engineering here at the University of Illinois realized the growing need for a systematic research program to complement the engineering educational system. It had become time to coordinate the limited research endeavors of the individual departments into a centralized organization designed "to conduct investigations and make studies of importance to the [professional] engineering and industrial interests of the State."

At this time, Professor L. P. Breckenridge, Head of the Mechanical Engineering department, to whom much of the credit for the creation of the Station is due, had been attempting to secure Federal aid in establishing engineering experiment stations similar to the agricultural experiment stations. Failing in this purpose, he proposed that such an institution be established at the University with state funds. As a result, a special request for funds to expand the activities of the Engineering College was made by the Board of Trustees in its legislative appropriations list of December, 1902. In May, 1903, \$150,000 was granted by the General Assembly, and on December 8, 1903, the Board of Trustees established the Experiment Station.

Though the first bulletin appeared in September, 1904, the station

wasn't formally organized until June, 1905. At that time, administrative duties were delegated to the Director, who since 1909 has been the Dean of the College of Engineering, and an Executive Staff now composed of the Associate Director, the departmental heads in the College, the professor in charge of Chemical Engineering, and the Director of Engineering Information and Publications. This staff is responsible for the general policies correlating and directing the station's research program.

Some three years ago, the increase of the number of projects and expanded scope of administrative duties led to the establishment of the post of Associate Director. At present, Dean W. L. Everitt is Director, while Professor R. J. Martin serves as Associate Director, and Professor L. A. Rose is Director of Engineering Information and Publications. In addition to these posts, Professor E. J. Heater served as technical illustrator-draftsman from 1918 until June, 1953. In this capacity, he aided the authors of reports in correlating their data, checking accuracy, and perfecting and arranging their drawings. His successor is Donald Engstrom.

The philosophy governing the policy of the station has been to encourage all members of the faculty to pursue projects of study which are important to engineering technology and science and which interest them. Provision has been made for graduate and even undergraduate students to take part in these programs—thus closely integrating the teaching and research activities of the College.

Among the older projects of note are railroad rail studies, boiler water treatment in connection with power boiler equipment, heating research, and "high-speed" tool steel studies. The first bulletin published by the station was concerned with Professor A. N. Talbot's studies of reinforced concrete. It is interesting to note that the first reinforced concrete bridge in the United States spanned the Boneyard and contained railroad rails as the reinforcing material.

At the present time over 200 problems are being studied and the rate of expenditure for research is over three and one-half million dollars. A number of the newest projects, some of which are grouped together in the Control Systems Laboratory, concern many subjects vital to our present defense program. Then too there are studies of transistors in the Electrical Engineering department, renewed work on tool steels to resist high temperatures by the Mechanical Engineering department, nuclear and solid state studies by the Physics department, Structural Engineering research by the Civil Engineering department, and tests with radioactive sewage on present-day treatment techniques by the Sanitary Engineering department.

As the first research organization of its kind to be established within an Engineering College in this country, the Engineering Experiment Station has not only made numerous contributions to the profession and to industry, but has also served as a pattern for the many others which have since been founded elsewhere.

. . . AND FINALLY, OUR THANKS!

A project like the Engineering Open House requires an immense amount of time and effort from a great many students, faculty, and staff members of the College of Engineering, as well as many of their friends. Here we wish to thank once more everyone who has contributed his efforts toward the success of the 1954 Engineering Open House at the University of Illinois.

Our special thanks should go to Keith Yarborough for his fine article on the 50th anniversary of the Engineering Experiment Station and to Algimantas Zemaitis, who designed the cover.

OPEN HOUSE PERSONNEL

OPEN HOUSE PERSONNEL

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Secretary-Treasurer — RICHARD WHARTON

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Al Avizienis, programs
Don Heid, routing
Elwin Johnson, central headquarters
Chuck Miller, judging

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Waldemar Rawicki, Chairman
Bob Whitman, lunch stands
Jim Peterson, transportation
James Nagle, special effects

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Alan English, Chairman
Jack Allen, band
Fred Friedewald, arrangements
John Schwinn, lineup

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Charles Kersch, Chairman
Donna Rudig
Joe Heis
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HIGH SCHOOL PUBLICITY

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W. L. Everitt, Dean of College of Engineering
S. H. Pierce, Associate Dean of College of Engineering
L. A. Rose, Director of Engineering Information and Publications

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FRIDAY
MARCH 9
10 AM - 10 PM

SATURDAY
MARCH 10
10 AM - 5 PM

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UNIVERSITY OF ILLINOIS



WELCOME TO OPEN HOUSE!

Greetings from all of us in the College of Engineering! Each year we enjoy this opportunity to show you what students in engineering do, and give you some insight into how they are educated.

Today, of course, you are seeing the "lighter" side of professional education; the planning and execution of these displays represent major additions to a serious study load. For their efforts we are indebted to the Student Coordinating Committee, the Student Societies, Departmental Advisors, and other Faculty members who have given full support.

We hope you will find the results of their labors both instructive and interesting. We trust, too, that they will help you recognize some of the fascination we engineers find in our work, and appreciate a few of the many public services and responsibilities the engineering profession is undertaking for the world of today and tomorrow.

Especially we would like you to see the breadth and diversity of our resources here, and the hundreds of projects we are pursuing for the benefit of our State and Nation. You are welcome visitors, both as friends of engineering and as citizens of Illinois. We wish you a pleasant, informative, and profitable stay!

Sincerely,

W. L. EVERITT
Dean

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TIME OF OPERATION — The Open House will be in operation from 10 a.m. to 10 p.m., Friday, March 9, and from 10 a.m. to 5 p.m., Saturday, March 10.

INFORMATION — The Headquarters for Engineering Open House is on the first floor of Civil Engineering Hall. Do not hesitate to ask questions at any of the exhibits along the way.

LUNCH STANDS — Hamburgers, hot dogs, sandwiches, cold drinks, coffee, and ice cream will be the order of the day at lunch stands located in the Mechanical Engineering Laboratory and in 138 Electrical Engineering Building.

PARKING — Parking lot information and Visitor Parking Permits will be available at Open House headquarters on the first floor of Civil Engineering Hall.

AERONAUTICAL ENGINEERING

Aeronautical Engineering Lab. A.

WIND TUNNEL TEST — will be operated every half hour



Aeronautical Engineering students conducting a wind tunnel test

Aeronautical Engineering Lab. B.

SHOCK TUBE — Schlieren photographs of pressure distribution

STRUCTURAL FRAMEWORK — of an aircraft

LANDING GEAR DROP-TESTING DEVICE

TURBOJET ENGINE — J-35 used in F-84G fighter interceptor

ROCKET ENGINE MODEL — the Walther engine from World War II

RECIPROCATING ENGINE — R-2850

MOVIES — at the rear of the building, color films of the latest developments in aeronautical engineering

AGRICULTURAL ENGINEERING

Southwest Section of Mechanical Engineering Laboratory

A CENTURY OF PROGRESS — in harvesting and tillage equipment

FARM MACHINERY

MODEL SILO — demonstrating mechanical labor saving device

ELECTRIC LIGHTING AND HEATING

ELECTRIC FEED MIXER

POLE TYPE SHED — low cost shed for general use

WIND TUNNEL — showing building stresses during wind storms

GRAIN STORAGE BUILDINGS — showing grain storage facilities

SPRINKLER UNIT — in operation, material on related irrigation systems

STRUCTURES — models of structures found on Illinois farms

CERAMIC ENGINEERING

Ceramics Building

ABRASIVES — depicting the processes involved in combining the abrasive and bonding material to form abrasive wheels, belts and discs

PORCELAIN ENAMELS — illustrating the versatility and uses of porcelain enamels including demonstrations of how the glassy enamel is applied to steel

GLASS — showing the results of glass technologists

REFRACTORIES — illustrating linings in blast furnaces, together with sample refractory materials

STRUCTURAL CLAY PRODUCTS — showing typical clay products of our modern civilization

WHITEWARES — showing the steps in making dinnerware

CHEMICAL ENGINEERING

Chemical Engineering Building

SYNTHETIC TEXTILE MANUFACTURE — first floor pilot laboratory

SYNTHETIC RUBBER MANUFACTURE

PRODUCTION OF DRINKING WATER FROM SEA WATER

ELECTRO-CHEMISTRY — electroplating

STUDENT RESEARCH PROJECTS — senior research laboratory

UNIT OPERATIONS LABORATORY

CHEMICAL MAGIC — a chemical magic show which uses the unusual properties of materials to produce mystifying effects

CIVIL ENGINEERING

Civil Engineering Hall

PICTURES OF THE SEVEN GREATEST CIVIL ENGINEERING PROJECTS OF THE 20TH CENTURY — as determined by the ASCE

WEIGHT MEASUREMENT DEVICE — by deflection of a beam

BRIDGE MODELS

MODEL CONSTRUCTION SITE

WATER TREATMENT PLANT — in operation

FLUORIDATION OF PUBLIC WATER

TRAFFIC INTERCHANGE MODELS

EQUIPMENT USED ON FIELD SURVEYS

MODEL CULVERT — showing design techniques

Movies — of Civil Engineering projects under construction

ELECTRICAL ENGINEERING

Electrical Engineering Building

SERVOMECHANISMS

HI-FIDELITY SOUND REPRODUCTION

TRANSISTORS — shown operation various electronic circuits

HOUSEHOLD WIRING

RADAR

SONAR

MICROWAVE RADIO RELAY

SPECIAL LIGHTING EFFECTS — including "black," in the illumination engineering laboratory

ELECTRONIC LOCOMOTIVE — remote control



Students performing motor-generator tests in the main undergraduate electrical machinery laboratory. More than thirty groups can conduct experiments simultaneously, and the power generated can be transmitted to any classroom or laboratory in the Electrical Engineering Building

Electrical Engineering Building (continued)

ELECTRONIC DUCK — with its own electronic brain

MAGNETIC CANNON — with a range of thirty feet

WPGU — radio station in operation

GENERAL ENGINEERING

Transportation Building

PRODUCTION ILLUSTRATION — airbrush and double tone demonstrations

DESCRIPTIVE GEOMETRY

MACHINE DRAWING

ARCHITECTURAL DRAWING

GEOLOGICAL DRAWING — displays of geological maps of the state of Illinois

AIRCRAFT DRAFTING AND LOFTING

GRAPHICAL COMPUTATIONS — a display of more than fifty different slide rules

PERSPECTIVE DRAWING

DEMONSTRATIONS — of lettering machines, reproduction of drawings, pantograph, glass-easel, ellipse machine and displays of drawings on glass, plastic and metals

INDUSTRIAL ENGINEERING

Mechanical Engineering Building

TOOL DESIGN — displays of equipment used in tool design and the importance of tool design

TIME AND MOTION STUDY — time study equipment and an audience participation time and motion problem

INDUSTRIAL SAFETY

PLANT LAYOUT AND MATERIALS HANDLING — displays of ideal plant layout and method of handling materials

MATHEMATICS

Electrical Engineering Building (First floor)

Here the Mathematics Department will have displays and demonstrations showing mathematics as it applies to engineering

MECHANICAL ENGINEERING

Mechanical Engineering Building

MACHINES — demonstration of operations with special machines in the Machine Tool Laboratory

INDUCTION HEATING — and treating of metals in heat treatment laboratory, Room 114

WELDING — arc welding, gas welding and flame cutting, Room 221

ENGINES — standard automotive gas and diesel engines will be in operation in the Internal Combustion Engines Laboratory

HEAT TRANSFER STUDY — in the Thermodynamic Laboratory

ELEMENTS OF MACHINERY — in Machine Design Room

Mechanical Engineering Laboratory

POWER MACHINERY — Murry Corliss Steam Engine, Otto Gas Engine, Allis Chalmers Steam Engine, and many diesel engines

TURBINES — Terry seven-stage steam turbine

HIGH ALTITUDE TEST CHAMBER — Physical Environment Laboratory

Foundry

SAND TESTING — core making, drying and sand blasting

CASTING — on the main floor see demonstrations of casting and foundry methods

SPRINGFIELD AV

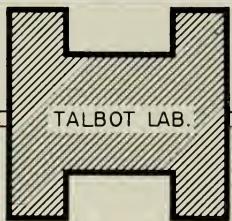


WRIGHT STREET

BURRILL AVENUE



AERONAUTICAL
ENG. LAB. (B)



ELECTRICAL
ENG. BLDG.

ELECTRICAL

RESEARCH

CIVIL ENG. HALL

GREEN

STREET

ENGINEERING

CAMP

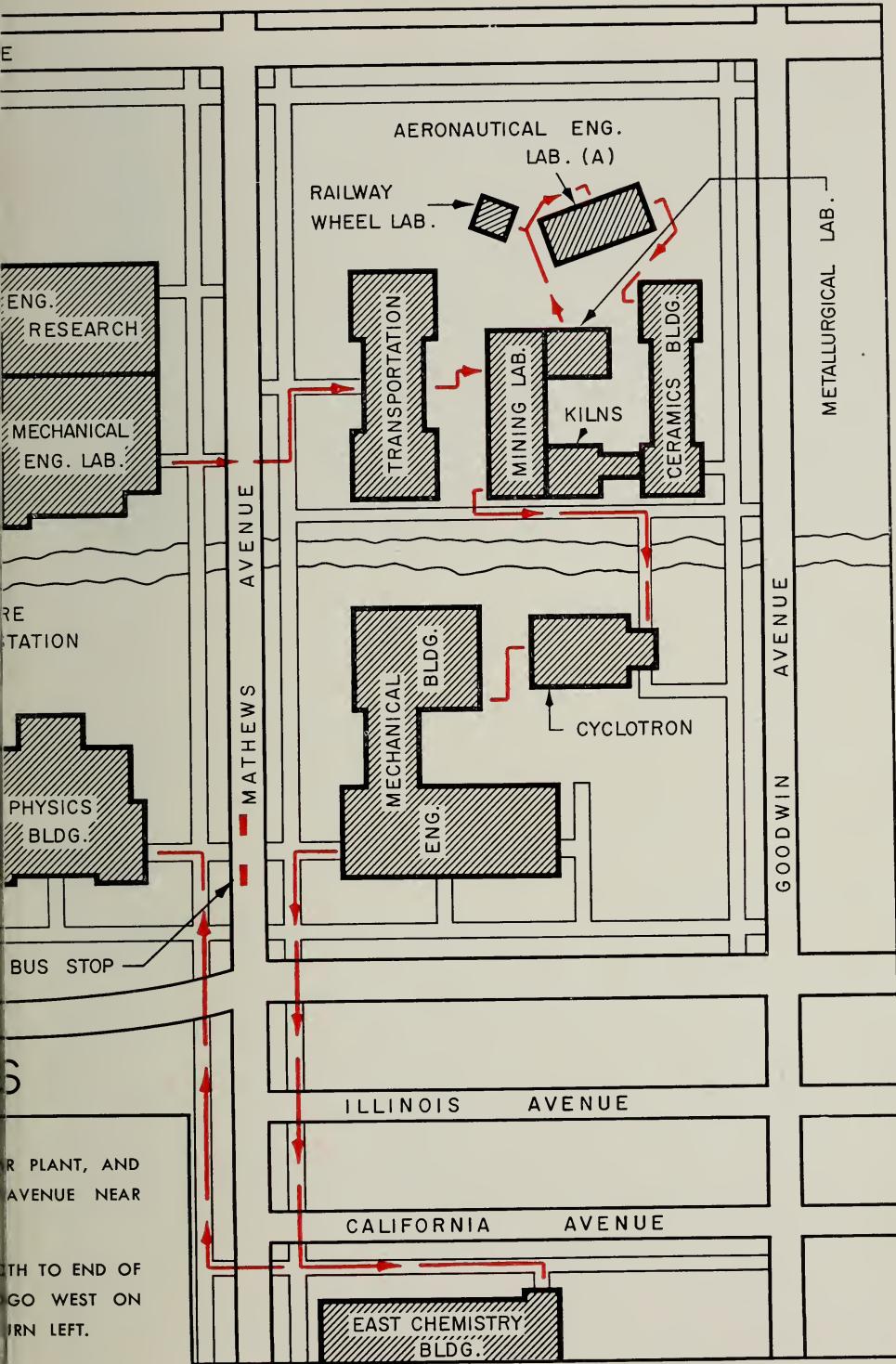
STADIUM

DRIVE

BETATRON

BUSES TO BETATRON, ABBOTT
TEST TRAIN STOP ON MATHE
GREEN STREET.

TO DRIVE TO POWER PLANT, GO
WRIGHT STREET, TURN RIGHT A
ARMORY AVENUE TO OAK STREET





Heat Treatment of Metals Laboratory in the Mechanical Engineering Building

METALLURGICAL ENGINEERING

Metallurgical Engineering Laboratory

PRODUCTION OF METALS — and methods of handling ores

MICROSTRUCTURE — and the actual sound of metals crying

RESEARCH AND DEVELOPMENT — research work in progress

ELECTRON MICROSCOPE — X-ray diffraction methods

MOVIES — of metallurgical developments and operations

MINING ENGINEERING

Mining Laboratory

PROSPECTING — equipment for prospecting for radio-active ores

DIAMOND DRILLING

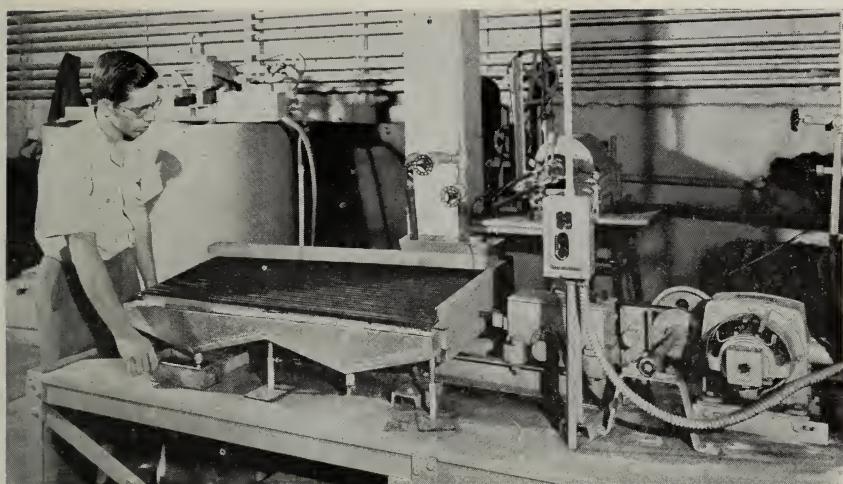
FUELS — coal, petroleum, etc., will be on display

ORES — iron, copper, lead, etc., will be on display

MINING EQUIPMENT AND METHODS — crushing and dressing methods
and demonstrations of production processes

SAFETY — mine ventilation and safety apparatus will be on display

MOVIES — of mining operations



Student demonstrating a Wilfley table used to separate ores for further processing

ENGINEERING PHYSICS

Physics Laboratory

LIGHT — demonstrations of the fundamental properties of light

HEAT — special low temperature display

MECHANICS — demonstration of the meaning of forces and masses

ELECTRONICS — high voltage displays

CYCLOTRON — demonstration

BETATRON — demonstration

RESERVE OFFICER'S TRAINING CORPS

Army — Mechanical Engineering Building

BRIDGING — Corps of Engineers will show types of fixed and floating bridges, and engineering construction equipment

COMMUNICATION — Signal Corps will display and demonstrate military communication systems

MARS — messages will be taken from visitors and sent free of charge to any member of the Armed Forces anywhere in the world

Navy — Civil Engineering Hall

WEAPONS — naval ammunition and weapons on display



3,000,000 lb hydraulic testing machine breaking a large concrete cylinder. This machine, located in the main crane bay of Talbot Laboratory, will be demonstrated on the following schedule:

Friday, March 9 — 10:30, 11:30 a.m.; 1:30, 2:30, 3:30, 4:30, 7:30, 8:30, and 9:30 p.m.
Saturday, March 10 — 10:30, 11:30 a.m.; 1:30, 2:30, 3:30, and 4:30 p.m.

Navy R.O.T.C. (continued)

ENGINEERING — diving apparatus and the Waterberry Speedgear
SHIP MODELS

Air Force

JET ENGINE

CONTROL TOWER OPERATIONS

FLIGHT INSTRUMENTS

AIRCRAFT MODELS DISPLAY

THEORETICAL AND APPLIED MECHANICS

Talbot Laboratory

TESTING MACHINES — repeated load tests, 300,000 in.-lb torsion machine, dead load testing machine, tests on rigid frames, tests on welded wire fabric in concrete, etc., in the main bay of the first floor

THREE-MILLION LB TESTING MACHINE — in operation, breaking a large concrete cylinder

HYDRAULIC JUMP — in the glass walled flume of the Fluid Mechanics Laboratory

WEIRS — and other hydraulic machinery, Rooms 126 and 129

WATER TURBINE — and water tunnel

RAIL AND JOINT BAR TESTING — rolling machines in operation

VIBRATIONS — the study and measurement of small motions, Room 220

MATERIALS TESTING — demonstrations of standard student experiments in Room 225

FATIGUE LOADING — machines and instruments for testing metals under repeated loads at elevated and sub-zero temperatures

MOVIES — of student activities in theoretical and applied mechanics

OTHER ATTRACTIONS YOU CAN'T MISS

Abbott Power Plant — The power plant of the University will be open for inspection. Here you will see power-generating machinery under operating conditions.

Physics Research Building — This building houses the Betatron. There will be guided tours with explanations of this famed research device.

Engineering Research Laboratory — The Illiac is housed in this building. The Illiac is one of the few electronic digital computers of its size in the United States.

Test Train Exhibit — The Illinois Central Railroad will have on display their dynamometer test car, rail test car and the current type of diesel engine in operation. The test train will be located on the railroad tracks near Abbott Power Plant.

ST. PAT'S BALL

This year the College of Engineering will again hold the annual St. Pat's Ball, one of the most elaborate of the events on North Campus. St. Pat himself will be present to perform the knighting ceremony. Deserving seniors will have the title "Knight of the Order of St. Pat" bestowed upon them. This semi-formal dance will be held on Saturday, March 10, 9-12 p.m. at Huff Gym. Tickets may be obtained at the Illini Union Box Office.

. . . AND FINALLY, OUR THANKS

This year's Engineering Open House is the result of much time and effort given by many individuals. We wish to thank them all — the Faculty, the committee chairmen, the departmental representatives, and all of you, our guests, who came to see and, we hope, enjoy our work.

Special thanks to John Aanes for designing our program cover and posters, to Professor John Carroll for his help in organization, and to our constant behind-the-scenes helpers — the Staff of the College of Engineering.

RICHARD DAY, *General Chairman*

OPEN HOUSE PERSONNEL

CHAIRMAN — Richard Day

PROGRAM COMMITTEE

Robert Waddick, Chairman
John Aanes, printing (Cover)
Tom Polek, routing
Joe Kennell, headquarters

HIGH SCHOOL PUBLICITY

Hugh Edfors

ST. PAT'S BALL

George Haley, Chairman

COORDINATING COMMITTEE

Robert Shannon

Richard DeCamp

Charles Swisher

Lyle Grider

George Van Shoick

Michael Henry

Stanley Rolfe

Earl Evans

David Kearns

Raymond Wolf

Don Killpatrick

William Becker

James West

Donald Reeves

James Ronk

Robert Johannes

Richard Ernst

Paul Landgren

Donald Lurito

William Loyd

Philip Meyer

David Howard

Lester Schnake

SECRETARY-TREASURER —

Ronald Johnson

PUBLICITY COMMITTEE

Bob Thomaszkiewicz, Navy Pier
John Perry, newspapers
Dick Bauer, magazines
Gary Newton, campus

PHYSICAL ARRANGEMENTS

Gerald Trimble, Chairman
Johan Voelpel, physical plant
Gerald Topp, transportation
Bryce Bolton, special effects
Ronald Kamp, room reservations
Gene Fooks, lunch stands

FACULTY ADVISORS

Robert Beals

John Carroll

Paul Egbert

Arthur Friederich

Harry Hilton

Chalmers Sherwin

John Hutchinson

Robert Peart

James Westwater

Harry Wetenkamp

Bernard Ricketts

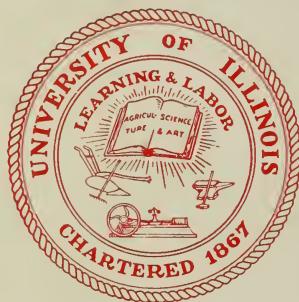
Franz Hohn

Capt. James Young

Lt. Marion Howard

Lt. William Staff

UNIVERSITY OF ILLINOIS



COLLEGE OF ENGINEERING

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1958
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ENGINEERING LIBRARY

ALTGELD HALL

UNIVERSITY OF ILLINOIS

APR 13 1961

THE LIBRARY OF THE



FRIDAY

March 14

10 a.m.-9 p.m.

SATURDAY

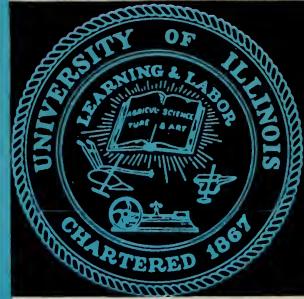
March 15

9 a.m.-5 p.m.



1958

ENGINEERING OPEN HOUSE



**WELCOME
TO
OPEN
HOUSE!**



Greetings from all of us in the College of Engineering! Each year we enjoy this opportunity to show you what students in engineering do, and give you some insight into how they are educated.

With the displays of teaching methods and facilities, you are, of course, seeing the "lighter side" of professional education. The planning and execution of these exhibits represent major additions to a heavy study load. For their efforts, we are indebted to the Student Coordinating Committee, the Student Societies, Departmental Advisors, and other students and faculty members who have given full support.

The advent of the "space age" has confirmed the demand for engineers and scientists, placing increased emphasis on quality rather than quantity. The intensified need for the scientist-engineer, who possesses knowledge of both basic and engineering sciences, finds us at Urbana establishing new curricula and new programs and revising others. We hope that these displays will help you realize the changes constantly taking place in engineering as a leading force of our society today.

Especially we would like you to be aware of the breadth and diversity of our resources here, and the hundreds of projects we are pursuing for the benefit of our State and Nation. You are welcome visitors, both as friends of engineering and as citizens of Illinois. We wish you a pleasant, informative, and profitable stay.

Sincerely,

A cursive signature of W. L. Everitt, appearing to read "W. L. EVERITT".

W. L. EVERITT
Dean

TIME OF OPERATION — The Open House will be held from 10 a.m. to 9 p.m., Friday, March 14 and from 9 a.m. to 5 p.m., Saturday, March 15.

INFORMATION — The Headquarters for Engineering Open House is on the first floor of Civil Engineering Hall. Guided tours of the Open House will originate from this office periodically.

PARKING — Free parking will be allotted all the visitors of Engineering Open House. Visitor Parking Permits will be available at Open House Headquarters on the first floor of Civil Engineering Hall.

FOOD SERVICE — The cafeteria in the basement of the Illini Union serves lunch from 11:30 a.m. to 1:15 p.m., and the soda fountain is open from 2:00 to 4:30 p.m. The serving line is shortest after 12:20. The Bevier Hall cafeteria (New Home Economics Building) will be open on Friday only from 11:30 to 12:30. In addition, there are many restaurants in the campus business district.

CAMPUS TOURS — Through the cooperation of the Illini Union, guided tours of the campus will leave room 114 Civil Engineering Hall between 1:00 and 4:00 p.m. both Friday and Saturday. These tours will be about one hour in length and will include the quadrangle and a brief visit to either a men's or women's residence hall.



Sanitary Engineers Purify the Boneyard

AERONAUTICAL ENGINEERING

Aero. Lab. A and B

HIGH SPEED WIND TUNNEL
SHOCK TUBE
RAM JET
ROCKET ENGINES
TURBOJET ENGINE
TURBOPROP ENGINE
PULSE JET
AIRFRAME TESTING
PHOTOELASTIC TEST
FLUTTER
VARIABLE-PITCH PROPELLER
SMOKE-FLOW TUNNEL
DISPLAY OF FLIGHT REGIME PROBLEMS
PLASMA-JET GENERATOR
LINK TRAINER

AGRICULTURAL ENGINEERING

South West Corner of Mechanical Engineering Laboratory

M & W DYNAMOMETER — Measure tractor horsepower
PISTON PRESSURE MEASUREMENT
ENGINEERING DEVELOPMENT OF TILE DRAINAGE TECHNIQUES
DEVELOPMENT OF NEW FARM STRUCTURES
MODERNIZATION OF FARM STRUCTURES
PNEUMATIC FEED MOVEMENT
HEAT PUMP — Crop drying

CERAMIC ENGINEERING

Ceramics Building

ELECTRICAL PORCELAINS
GLASS TECHNOLOGY AND USES
MOVIES OF THE CERAMIC INDUSTRY
NUCLEAR CERAMICS
PORCELAIN ENAMELS
REFRACTORIES IN INDUSTRY

Ceramic Engineering (continued)

SMELTING OF CERAMIC RAW MATERIALS
STRUCTURAL CLAY PRODUCTS
WHITEWARE PRODUCTION
WHITEWARES IN THE HOME

CHEMICAL ENGINEERING

East Chemistry Building

UNIT OPERATIONS AND EQUIPMENT—Unit operations laboratory, Room 8
SENIOR AND GRADUATE RESEARCH PROJECTS — Room 194
CARBONATION OF “CHEM-POP”
ION EXCHANGE DEMONSTRATION
PRELIMINARY ORE TREATMENT
RADIOCHEMISTRY
ROTARY FILTER
ALL-GLASS DISTILLATION UNIT
CHEMICAL MAGIC SHOW — Room 116, every hour on the hour



Unit Operations Laboratory in East Chemistry Building

CIVIL ENGINEERING

Civil Engineering Hall

TRAFFIC STUDY MAPS

MODEL OF HIGHWAY CONSTRUCTION ON CHICAGO'S HALSTED STREET INTERCHANGE

MOVIES — Including film on Mackinac Straits Bridge

ACTUAL CONSTRUCTION EQUIPMENT DISPLAY

WATER TREATMENT PLANT IN ACTION

MODEL OF WATER AND SEWAGE FACILITIES OF AN AVERAGE TOWN

SURVEYING INSTRUMENTS DISPLAY

DEVELOPMENT OF TOPOGRAPHIC MAP BY AERIAL PHOTOGRAPHY

HYDRAULICS EXHIBITS AND DEMONSTRATIONS

EXAMPLES OF CLASSROOM ACTIVITY

ILLINOIS CENTRAL RAILROAD EQUIPMENT — Diesel Locomotive, Standard Coach, Dynamometer Car, Caboose, Road Bed Equipment.

The railroad equipment is located on the University siding near Abbott Power Plant at the Stadium Drive underpass. Free bus service to the Railroad Exhibit and the Betatron leaves every half hour from the corner of Burrill and Green streets (near Civil Engineering Hall).

Talbot Laboratory

DISPLAY DEPICTING THE STRUCTURAL ENGINEER IN THE AIRCRAFT AND MISSILE INDUSTRY

EXAMPLES OF STRUCTURAL RESEARCH IN THE CIVIL ENGINEERING DEPARTMENT

ELECTRICAL ENGINEERING

Electrical Engineering Building

DESIGNS IN MATHEMATICS — Room 59

PRACTICAL POWER — Room 50

TELEPHONE DISPLAY — Room 50

MOVIES

Careers in Engineering (On the Hour)

Neurosonic Surgery (On the Half Hour) — Room 138

LIGHT AT WORK — Room 151

Electrical Engineering (continued)

HIGH FIDELITY — Lounge, Room 165

DO YOU REMEMBER? — Room 265

CREATION THROUGH ENGINEERING — Rooms 251, 246, 240

WHAT'S IN A COURSE E.E. 353 — Room 245

WPGU ON THE AIR (Student Radio on Campus) — Room 241

GENERAL ENGINEERING

Transportation Building

HISTORY OF ENGINEERING

CAREERS IN ENGINEERING JOURNALISM AND SALES

BUSINESS AND GEOLOGY

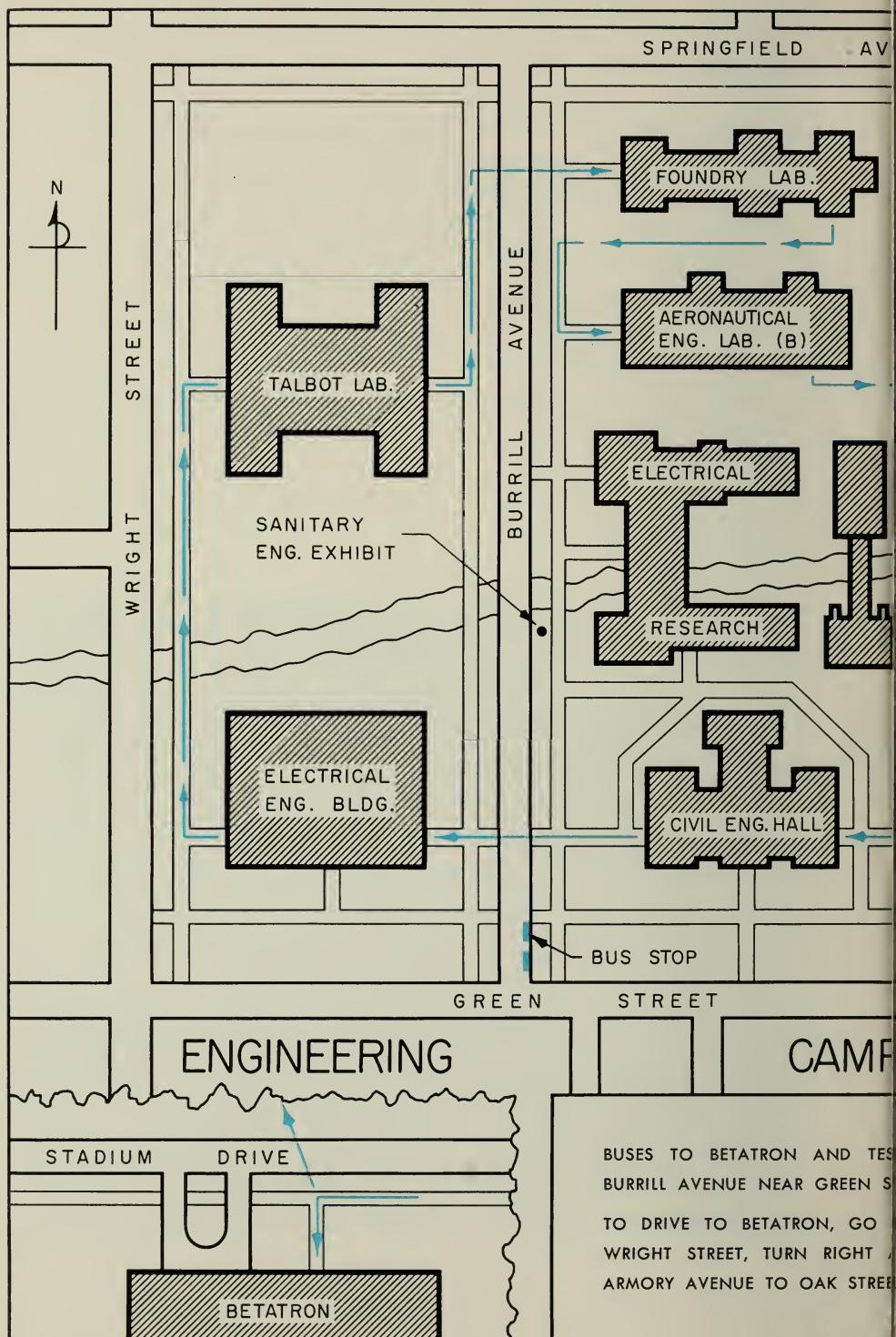
ENGINEERING LAW

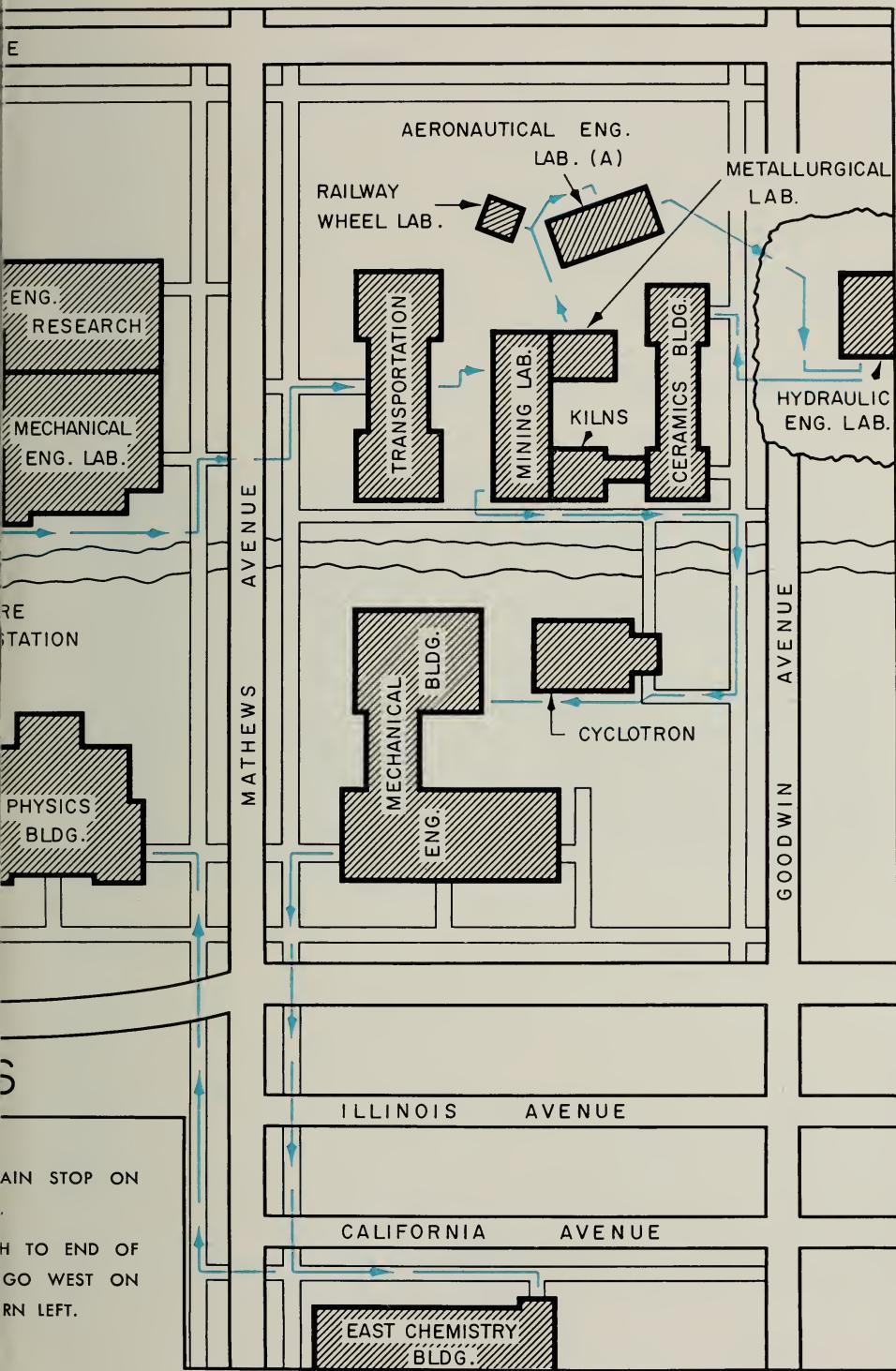
DESCRIPTIVE GEOMETRY

MACHINE DRAWING



**This 28-Foot Parabolic Antenna Receives Signals Bounced from the Moon
in a Study of the Ionosphere**





General Engineering (continued)

AIRCRAFT DRAFTING AND LOFTING

GRAPHICAL COMPUTATION METHODS

PERSPECTIVE DRAWING

LETTERING MACHINES

ELLIPSE MACHINE

ENGINEERING ILLUSTRATION — Axonometric Projection Boards, Air Brush, Zipatone, Doubletone

MECHANICAL ENGINEERING

Mechanical Engineering Building

HEAT TREATMENT OF METALS — 1st. floor

WELDING LABORATORY — 2nd. floor

METAL CUTTING RESEARCH — 2nd. floor

MECHANICS OF MACHINERY DISPLAY — 3rd. floor

INTERNAL COMBUSTION ENGINES — 1st. floor

MOVIES — Room 110

Foundry Building

FOUNDRY DEMONSTRATIONS

Mechanical Engineering Laboratory

MECHANICAL ENGINEERING HEAT AND POWER LABORATORY

METALLURGICAL ENGINEERING

Metallurgical Engineering Laboratory

CORROSION IN ACTION

GALVANIC CELLS

ELECTRO-PLATING

METALLOGRAPHIC AND DARKROOM EQUIPMENT

MICROSTRUCTURES OF METAL

THERMOCOUPLE DEMONSTRATION

STEEL PHASE TRANSFORMATION

HEAT TREAT DEMONSTRATION

RESEARCH AND DEVELOPMENT PROJECTS

MINING ENGINEERING

Mining Engineering Laboratory

MINERAL ECONOMICS — Location and value of Illinois minerals

GEOPHYSICAL PROSPECTING EQUIPMENT — Including Fully Equipped Field Truck

AUTOMATIC HOISTING

SLUSHER LOADING

VENTILATION DISTRIBUTION AND CONTROL

ROOF CONTROL BY BOLTING

GAS TESTING

ORE BENEFICATION EQUIPMENT

WORKING MODEL OF AN OIL FIELD



ILLIAC, a High-Speed Electronic Digital Computer

PHYSICS

Physics Building

MECHANICS — Demonstrations of motion as it is in outer space

NUCLEAR PHYSICS

LOW TEMPERATURES — 300° below zero

LIGHT

Physics Research Building

BETATRON — 300-million volt accelerator

Free buses to the Betatron will leave from Civil Engineering Hall every half hour.

DIGITAL COMPUTER LABORATORY

Engineering Research Laboratory

**OPERATION OF A HIGH-SPEED ELECTRONIC DIGITAL COMPUTER, THE
ILLIAC**— Demonstrated as interest demands
COMPUTER COMPONENTS

AIR FORCE R.O.T.C.

Mechanical Engineering Building

**ENGINEERING MOCK-UPS AND DISPLAYS OF AIRCRAFT
AFROTC INFORMATION**

ARMY R.O.T.C.

Mechanical Engineering Building

Corps of Engineers

BRIDGING— Fixed and Floating Bridge Models

DEMOLITION— Procedures and Explosives Models

ENGINEERING PROJECTS DISPLAY— Construction equipment models, pu-
rification of radioactive water

SOCIETY OF AMERICAN MILITARY ENGINEERS ACTIVITIES

Ordnance

DISPLAY OF ORDNANCE EQUIPMENT

81 MM. MORTAR

Signal Corps

PORTABLE TWO-WAY RADIOS

TELEPHONES FOR VARIOUS PURPOSES

TELETYPE

SWITCHBOARDS

Army ROTC Information

NAVAL R.O.T.C.

Mechanical Engineering Building

BOMB, GUN, AND GUIDED MISSLE TYPE AMMUNITION

“G” SUIT

MODELS OF NAVAL MACHINERY — Propulsion Plants (Nuclear and Conventional) and other equipment used aboard Naval Vessels

MODEL SHIPS

NAVY MOVIES

THEORETICAL AND APPLIED MECHANICS

Talbot Laboratory

VIBRATING BODIES AND VIBRATING MEASURING INSTRUMENTS — Room 220

FATIGUE OF METALS — Room 225

HYDRO-ELECTRIC PLANT IN OPERATION — Room 126

WIND EFFECTS ON A MODEL HOME — Room 126

HYDRAULIC PUMP DEMONSTRATION — Room 125-126

STRAIN GAGES — Room 220

A CLASS IN SESSION — Room 225

10-12 a.m., 1-3, 3-5, and 7-9 p.m. Friday

10-12 a.m. and 1-3 p.m. Saturday

CONCRETE CYLINDER COMPRESSION IN A 3 MILLION POUND TESTING

MACHINE — Crane Bay

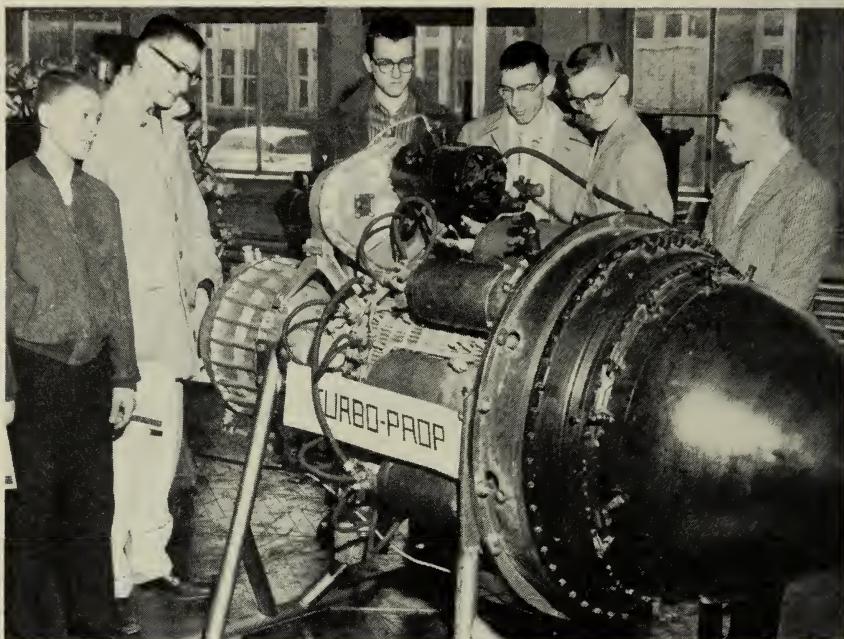
11 a.m., 2, 4, 7, 9 p.m. Friday

10 a.m., 1:30, 3:30 p.m. Saturday

The T & A M Department Wishes to Announce the

NEW CURRICULUM IN ENGINEERING MECHANICS

The Department of Theoretical and Applied Mechanics is introducing a new course of study beginning in September, 1958, leading to the Bachelor of Science degree in Engineering Mechanics. The courses are oriented for the student to obtain great depth of understanding of the basic sciences (mathematics, physics, chemistry) and the engineering sciences (mechanics of solids, fluid flow, thermodynamics, etc.) and to gain some insight and skill in the application of these sciences to engineering problems. Additional information is available in room 220.



Open House Visitors Inspect a Cutaway Aircraft Engine

ST. PAT'S BALL

On the evening of March 15, following the completion of Open House, the College of Engineering will hold its annual St. Pat's Ball. St. Pat himself will be there to bestow the title of "Knight of the Order of St. Pat" upon deserving seniors. The dance is to be held from 9 to 12 p.m. at Huff Gym. Tickets can be purchased at the Illini Union box office.

. . . AND FINALLY, OUR THANKS

An event as extensive as Engineering Open House would be impossible without the untold hours of work by many individuals. We wish to thank them all—Faculty, Central Committeemen, Committee Chairmen, and Students.

We also wish to thank you for visiting the Open House. It was a pleasure to have you as our guests.

JOHN J. BRENNAN
General Chairman

OPEN HOUSE PERSONNEL

GENERAL CHAIRMAN

John Brennan

VICE-CHAIRMAN

Martin Chergosky

SECRETARY-TREASURER

Joe Marchello

PROGRAM COMMITTEE

Phil Philhower, Chairman

Bill Baron, Cover

HIGH SCHOOL PUBLICITY

Chuck Connors

ST. PAT'S BALL

Ray Borelli, Chairman

PUBLICITY COMMITTEE

Dave Kamm, Chairman

Dick Northrup

Sue Siudzinski

Bob Wieneke

PHYSICAL ARRANGEMENTS

Adrian Crook, Chairman

Jim De Pauw

Bob Gibson

COORDINATING COMMITTEE

Martin Chergosky, Chairman

Robert Strain

Dean M. Peterson

George Gunderson

Peter Nikias

Ronald Larson

Jesse Riggs

Loren Sanders

Robert James

Bruce Beyaert

Ralph Gee

Ronald Lawwill

William Corley

John Lane

Donald White

Richard Buesinger

David Clay

John Morse

Rich Gordon

Neil Felmus

FACULTY ADVISORS

W. L. Shick

J. R. Carroll

G. R. Eadie

L. J. Koester

M. S. Peters

H. B. Puckett

G. A. Wempner

Capt. S. W. Franklin

R. J. Beals

A. S. Chodakowski

H. H. Hilton

J. L. Merritt

W. H. Munse

B. G. Ricketts

Lt. (jg) G. J. Miller

Capt. N. R. Kohn

L. D. Fosdick

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ENGINEERING OPEN HOUSE

MARCH 13-14, 1959
UNIVERSITY OF ILLINOIS
URBANA CAMPUS

AUG 26 1959

UNIVERSITY OF ILLINOIS

**GREETINGS
TO OUR
OPEN HOUSE
VISITORS!**



Once again all of us in the College of Engineering welcome you to the annual Engineering Open House. We are glad of the opportunity to have and to show — by sample and example — some of the phases of engineering. As in the past, the faculty and students have prepared displays which will help to enlighten all visitors as to the work and the education of an engineering student.

A good engineer must have a broad background of mathematics and science, but the most important thing is the combination of qualities that he shares with his fellow workers. I mean the combination of complete honesty in dealing with facts and men. Also he must have an inquiring mind, a creative spirit, persistence, and the desire to be of service to mankind. Along with these qualities goes his habitual use of a method of approaching problems which we like to call "the engineering method." This method has grown steadily until it includes nearly every facet of our lives.

The student coordination committee, the student societies, departmental advisers, and all other students and faculty members who have organized the open house wish you a pleasant, informative, and profitable visit both as friends of engineering and as citizens of Illinois.

Sincerely,

A handwritten signature in black ink, appearing to read "W. L. Everitt".

W. L. EVERITT
Dean, College of Engineering

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1959
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Engin

TIME OF OPERATION — Open House will be held from 10:00 a.m. to 9:00 p.m., Friday, March 13, and from 9:00 a.m. to 5:00 p.m., Saturday, March 14.

INFORMATION — Headquarters for Engineering Open House are located on the first floor of Civil Engineering Hall, centered in Room 114. Sponsors are requested to register their groups here.

PARKING — Free parking will be allotted all the visitors of Engineering Open House. Visitor Parking Permits will be available at Open House Headquarters on the first floor of Civil Engineering Hall.

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ILLINOIS CENTRAL RAILROAD EQUIPMENT — Diesel locomotive, standard coach, dynamometer car, caboose, road bed equipment. The railroad equipment is located on the University siding near Abbott Power Plant at the Stadium Drive underpass. A free bus to the railroad exhibit and the Betatron leaves every half hour from the corner of Burrill and Green Streets, by Civil Engineering Hall.

AERONAUTICAL ENGINEERING

Aero. Lab. A and B

HIGH SPEED WIND TUNNEL
SHOCK TUBE
RAM JET
ROCKET ENGINES
TURBOJET ENGINE
TURBOPROP ENGINE
PULSE JET
AIRFRAME TESTING
PHOTOELASTIC TEST
FLUTTER
VARIABLE-PITCH PROPELLER
SMOKE-FLOW TUNNEL
DISPLAY OF FLIGHT REGIME PROBLEMS
PLASMA-JET GENERATOR
LINK TRAINER



An experimental plasma-jet generator intended to power hypersonic wind tunnels reaches temperatures of several thousand degrees centigrade to simulate the effects of high-speed entry into the earth's atmosphere.

AGRICULTURAL ENGINEERING

Air Tent north of Talbot Laboratory

GRATE EXPERIMENT — comparison of various grate inlets to tile drains

SOILS DEMONSTRATION

WATER MOVEMENT BY AUGERING

RESEARCH AND DEVELOPMENT OF RIGID FRAME BUILDING DESIGN

BODY TEMPERATURE DETERMINER IN USE

REMODELING CRIB FOR SHELLED CORN STORAGE

AUTOMATIC FEED HANDLING — Table Model of Complete System

REVERSING-DIRECTION SPLIT PHASE MOTOR

EFFECT OF SPARK ADVANCEMENT ON TRACTOR HORSEPOWER

HAY PELLETING — continuous movie on research and development

CERAMIC ENGINEERING

Ceramics Building

ABRASIVES

ELECTRICAL PORCELAINS

GLASS — operational production tank

NUCLEAR CERAMICS

PORCELAIN ENAMELS — enamel tunnel kiln

REFRACTORIES

STRUCTURAL CLAY — extrusion room display

WHITEWARES

TEMPERATURE MEASUREMENT

ELECTRICAL ENGINEERING

Electrical Engineering Building

MOVIE — How to Become an Engineer

MOVIE — Sonic Waves and Brains

ILLUMINATION LABORATORY DISPLAYS

BELL TELEPHONE COMPANY DISPLAY

RADAR OVEN

TELEVISION DISPLAY

HIGH FIDELITY DISPLAY

TRAFFIC RADAR SYSTEM OF STATE POLICE

GENERAL ENGINEERING

Transportation Building

HISTORY OF ENGINEERING

CAREERS IN ENGINEERING JOURNALISM AND SALES

BUSINESS AND GEOLOGY

ENGINEERING LAW

DESCRIPTIVE GEOMETRY

MACHINE DRAWING

AIRCRAFT DRAFTING AND LOFTING

GRAPHICAL COMPUTATION METHODS

PERSPECTIVE DRAWING

LETTERING MACHINES

ELLIPSE MACHINE

ENGINEERING ILLUSTRATION — axonometric projection boards, air brush, zipatone, doubletone



A hydraulic engineering model study simulates river currents to study methods of controlling erosion around bridge abutments.

CHEMICAL ENGINEERING

East Chemistry Building

UNIT OPERATIONS OF CHEMICAL ENGINEERING
ALL-GLASS DISTILLATION COLUMN
CARBONATION OF "CHEM-POP"
RADIOCHEMISTRY DISPLAY
ROTARY FILTER
SENIOR AND GRADUATE RESEARCH PROJECTS
CHEMICAL PRODUCTS DISPLAY
TEMPERATURE MEASUREMENT DISPLAY
CHEMICAL MAGIC SHOW

CIVIL ENGINEERING

Civil Engineering Hall

SURVEYING INSTRUMENTS DISPLAY
HYDRAULICS EXHIBITS
CONSTRUCTION DESIGN AND MODEL
STRUCTURES — models, photographs, and projects
HIGHWAYS — design and models
SANITARY ENGINEERING — models and water treatment plant in action
MOVIES — including atomic reactor structure at Dresden, Ill.
AMERICAN SOCIETY OF CIVIL ENGINEERS DISPLAY
QUESTION AND ANSWER PERIOD CONDUCTED BY CIVIL ENGINEERING
PROFESSORS

Talbot Laboratory

EXAMPLES OF STRUCTURAL RESEARCH IN CIVIL ENGINEERING
DEPARTMENT

INDUSTRIAL ENGINEERING

Mechanical Engineering Building

QUALITY CONTROL
METHODS AND TIME STUDY
SAFETY
PLANT LAYOUT AND MATERIALS HANDLING

SPRINGFIELD AV



WRIGHT STREET

TALBOT LAB.

SANITARY
ENG. EXHIBIT

ELECTRICAL
ENG. BLDG.

BURRILL AVENUE

FOUNDRY LAB.

AERONAUTICAL
ENG. LAB. (B)

ELECTRICAL

RESEARCH

CIVIL ENG. HALL

GREEN

STREET

ENGINEERING

CAMP

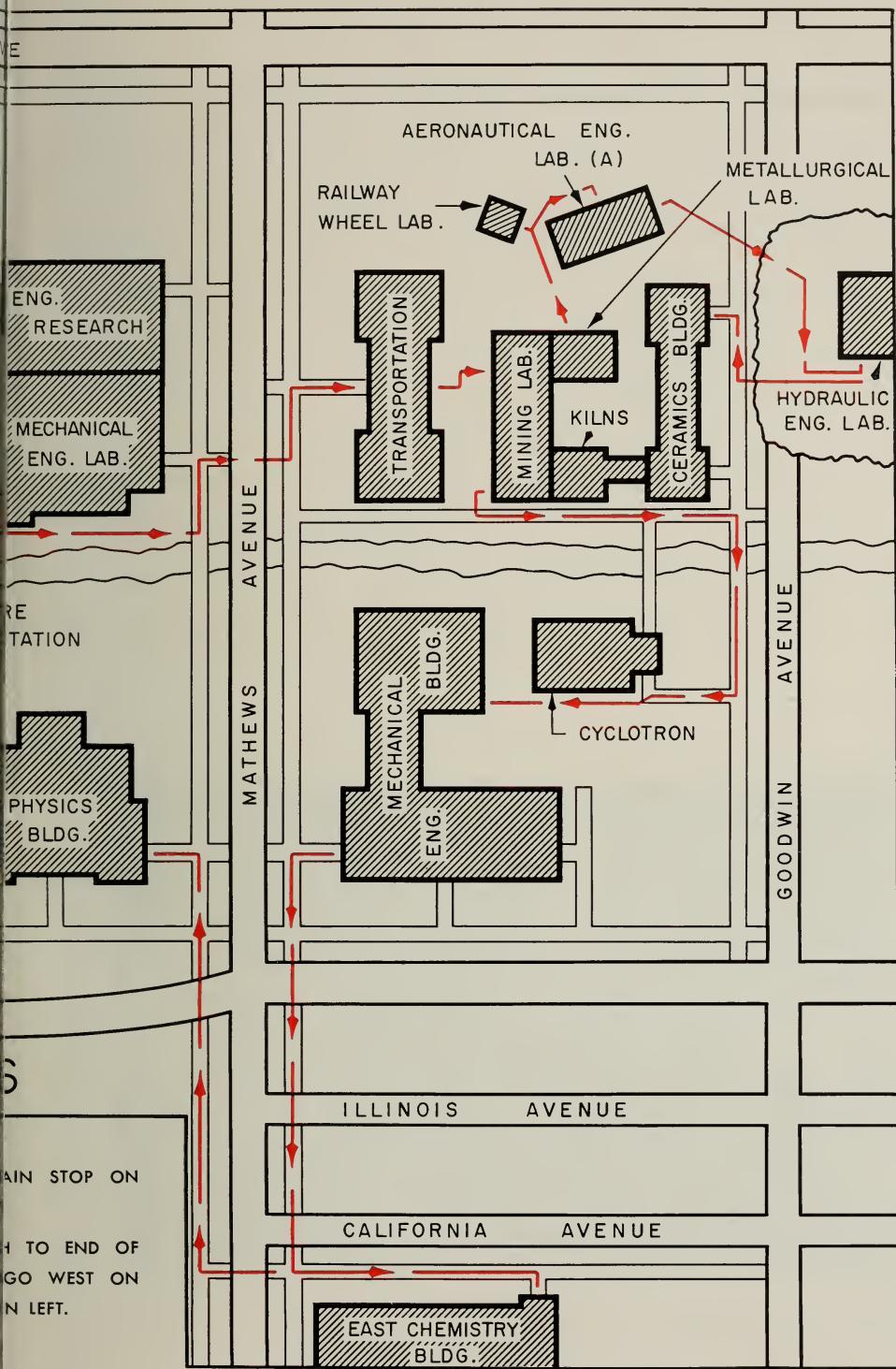
STADIUM

DRIVE

BETATRON

BUSES TO BETATRON AND TEST
BURRILL AVENUE NEAR GREEN ST

TO DRIVE TO BETATRON, GO
WRIGHT STREET, TURN RIGHT
ARMORY AVENUE TO OAK STREET



MECHANICAL ENGINEERING

Mechanical Engineering Building

INFORMATION BOOTH

INTERNAL COMBUSTION ENGINES

MOVIES

HEAT TREATMENT OF METALS

METAL WORKING LABORATORY

WELDING LABORATORY

MECHANICS OF MACHINERY

PI TAU SIGMA DISPLAY

Foundry Building

FOUNDRY DEMONSTRATIONS

Mechanical Engineering Laboratory

HEAT AND POWER DEMONSTRATIONS



Tapping a cupola for molten aluminum to cast souvenir figures is a feature of the Foundry Laboratory demonstration.

METALLURGICAL ENGINEERING

Metallurgical Engineering Building

PHASE TRANSFORMATION
STEEL PLANT MAKEUP
ASH TRAY CASTING
MAGNETISM AND HYSTERESIS
CORROSION
PROPERTY CHANGES DUE TO TEMPERATURE
COLD WELDING
GOLD-CADMIUM
WIRE DISPLAY

MINING ENGINEERING

Mining Laboratory

Mining Exhibits
AUTOMATIC HOISTING
GAS TESTING
GEOPHYSICAL PROSPECTING EQUIPMENT
MINERAL ECONOMICS CHARTS
ORE BENEFACTION EQUIPMENT
ROOF BOLTING MODEL
SLUSHER LOADING EXHIBIT
VENTILATION CONTROL

Petroleum Exhibits

DOWNHOLE PUMP DISPLAY AND FILM
ELECTRICAL PUMPING UNIT — Continental Enesco
WELL SERVICING EQUIPMENT

PHYSICS

Physics Building

MECHANICS
ELECTROMAGNETISM
NUCLEAR PHYSICS
LIGHT

Nuclear Research Building

CYCLOTRON

Betatron — Physics Research Building (near Abbott Power Plant)

300 million volt accelerator. A free bus will leave from the corner of Burrill and Green Streets, by Civil Engineering Hall, every half hour.

NUCLEAR ENGINEERING

Mechanical Engineering Laboratory

THEORETICAL AND APPLIED MECHANICS

Talbot Laboratory

COMPRESSION OF CONCRETE CYLINDERS IN A THREE-MILLION-POUND TESTING MACHINE, CRANE BAY

11:00 a.m. and 2:00, 4:00, 7:00, 8:00, and 9:00 p.m. Friday
11:00 a.m. and 1:00, 2:00, 3:00, 4:00, and 5:00 p.m. Saturday

ROPE PUMP, Room 125

WATER BELLS, Room 125

WATER RINGS, Room 125

HYDRAULIC JUMP, Room 126

WIND PRESSURES ON A MODEL HOME, Room 126

VIBRATIONS — INDUCED AND MEASURED, Room 220

PHOTOELASTIC STRESS MEASUREMENT, Room 220

STRAIN GAGES, Room 220

TELEVISION STUDIO FOR TAM LABORATORY INSTRUCTION, Room 220

TENSILE TEST OF STEEL — Room 225

COMPRESSION TEST OF MORTAR, Room 225

FATIGUE OF METALS, Room 321

NEW CURRICULUM IN ENGINEERING MECHANICS

The Department of Theoretical and Applied Mechanics introduced this year a new curriculum leading to the Bachelor of Science degree in Engineering Mechanics. The courses are oriented for the student to obtain great depth of understanding of the basic sciences (mathematics, physics, chemistry) and the engineering sciences (mechanics of solids, fluid flow, thermodynamics, etc.), and to gain some insight and skill in the application of these sciences to engineering problems. Additional information is available in Room 220, Talbot Laboratory.

ARMY R.O.T.C.

Mechanical Engineering Building

Corps of Engineers

BRIDGES — fixed and floating bridge models

MINES AND DEMOLITION — procedures and explosives models

ENGINEERING PROJECTS — responsibility of engineers

POSTERS OF ENGINEERS' PROJECTS

TERRAIN MODEL

Ordnance

DISPLAY OF ORDNANCE EQUIPMENT

81 MM. MORTAR

75 MM. RECOILLESS RIFLE

30 CAL. MACHINE GUN

NAVAL R.O.T.C.

Mechanical Engineering Building

500 LB. BOMB

8 IN. PROJECTILE

6 IN. POWDER CASE

50 CAL. MACHINE GUN

DEPTH CHARGE



A mammoth tent supported and heated entirely by compressed air from a drying fan houses agricultural engineering exhibits.

Naval R.O.T.C. (continued)

ANTI-SUB ROCKET

AMMUNITION DISPLAY BOARDS

NAVY BOILERS

ANTI-AIRCRAFT PROBLEM MODEL

STEAM CYCLE

NAUTILUS SUBMARINE

TALOS MISSILE

COMBAT INFORMATION CENTER OF DESTROYER

“G” SUIT

AVIATOR’S HELMET

SET OF SOUND POWERED PHONES

OXYGEN RESCUE EQUIPMENT (BREATHING EQUIPMENT)

ST. PAT’S BALL

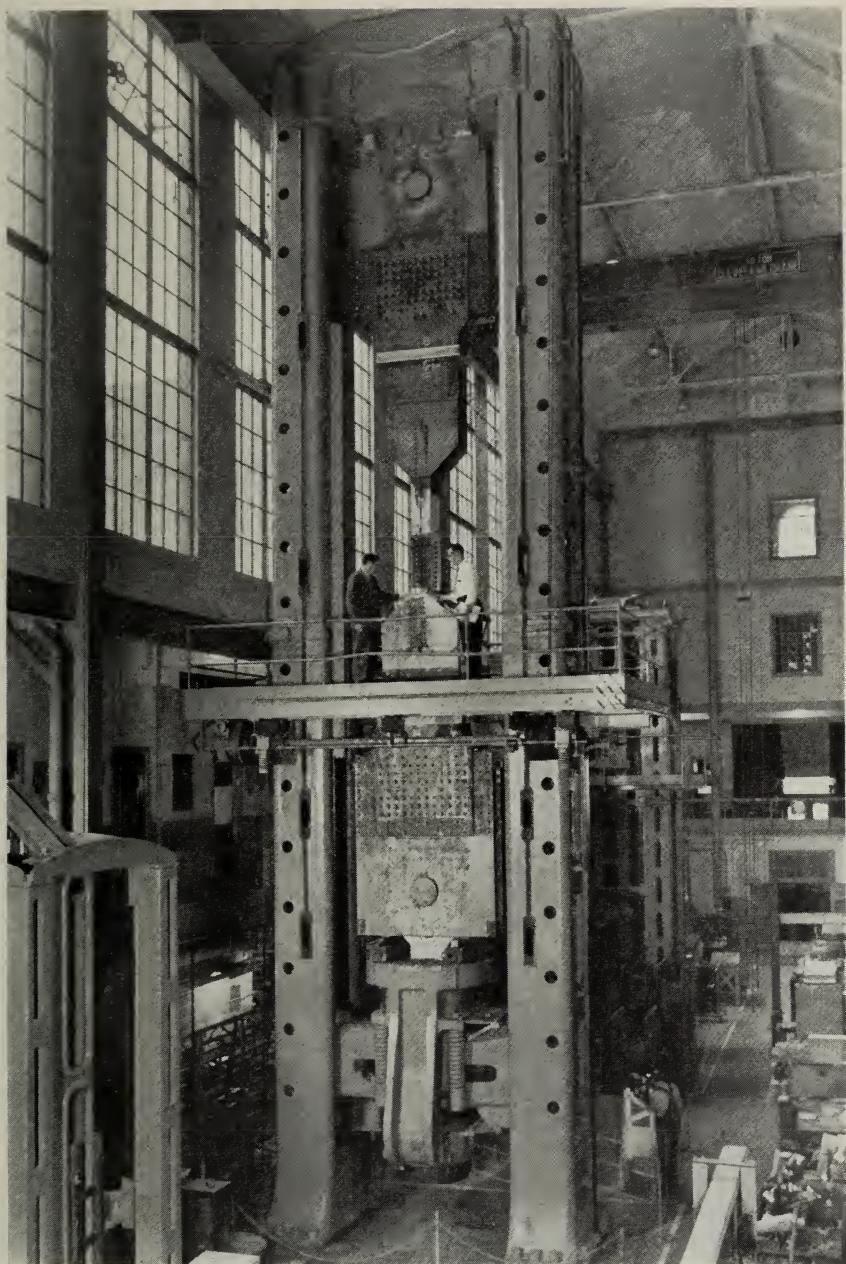
On the evening of March 14, following Open House, the student body of the College of Engineering will hold its annual St. Pat’s Ball to honor the patron saint of engineering. St. Pat himself will be there to bestow the title “Knight of the Order of St. Pat” on some dozen seniors who have distinguished themselves in service to the college, both in high academic standing and in extracurricular activities.

. . . AND FINALLY, OUR THANKS

An event as extensive as Open House would be impossible without untold hours of work by many individuals. We wish to thank them all — faculty members, committee chairmen and members, and student representatives in all departments of the college!

We also wish to express our pleasure that you could come to visit us. We have enjoyed your company, and hope that you will come again!

ADRIAN CROOK
General Chairman



A three-million-pound testing machine which can accommodate full-scale structures of steel or concrete up to 38 feet in length for either tension or compression experiments.

OPEN HOUSE CHAIRMEN AND COMMITTEES

GENERAL CHAIRMAN

Adrian Crook

VICE-CHAIRMAN

Emmanuel Guyon

SECRETARY-TREASURER

Philip Tigan

HIGH SCHOOL PUBLICITY

James Fortier

ST. PAT'S BALL

Philip Philhower

LOCAL PUBLICITY

Donald Passaglia

PHYSICAL ARRANGEMENTS

Robert Gibson

ART

Philip Weibler

Faculty Advisers

W. L. Shick, *Chairman*
(*Gen. Engr.*)

Giulio Ascoli (*Physics*)

R. J. Beals (*Ceramic Engr.*)

E. J. Brown (*Mech. Engr.*)

G. R. Eadie (*Mining Engr.*)

T. M. Elsesser (*T.A.M.*)

M. A. Faucett (*Elect. Engr.*)

H. H. Hilton (*Aero. Engr.*)

J. L. Merritt, Jr. (*Civil Engr.*)

S. L. Paul (*Civil Engr.*)

H. B. Puckett (*Agr. Engr.*)

J. A. Quinn (*Chem. Engr.*)

C. M. Wayman (*Met. Engr.*)

Departmental Representatives

Fran Melaniphy, *Chairman*

Darryl Albright (*Met. Engr.*)

William Beutjer (*Civil Engr.*)

John Brennan (*Signal Corps*)

Jordan Buchanan (*Elect. Engr.*)

John Clancy (*Chem. Engr.*)

William Golden (*Physics*)

Jack Krumwiede (*Ceramic Engr.*)

Bill Lewis (*Navy*)

William Littman (*Corps of Engrs.*)

Gary Miner (*Mech. Engr.*)

Clarke Neal (*Ordnance*)

Wayne L. Peterson (*Agr. Engr.*)

Ronald K. Sprague (*Min. Engr.*)

University of Illinois Champaign-Urbana March 11-12

ENGINEERING LIBRARY

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ALTGELD HALL

1960



ENGINEERING OPEN HOUSE

Souvenir Program

THE LIBRARY OF THE
APR 13 1961

UNIVERSITY OF ILLINOIS

A WELCOME TO OUR 1960 OPEN HOUSE VISITORS!



From the Dean:

A most cordial welcome from all of us in the College of Engineering. We are glad to have this opportunity to show you the work and education of an engineering student and how he is prepared to meet the exciting challenge of the "space age."

Especially we would like you to be aware of the breadth and diversity of our resources here, and the hundreds of educational and research projects we are pursuing for the benefit of our State and Nation. You are welcome visitors, both as friends of engineering and the University, and as citizens of Illinois. We wish you a pleasant, informative, and profitable stay.

W. L. Everitt
DEAN, COLLEGE OF ENGINEERING

From the Students:

Representing the student body of the College, we too are happy that you can come to visit our Open House, and we hope that your time with us will be most enjoyable. An event as extensive and complex as this would be impossible without untold hours of preparatory work by many individuals. As the central administrative student committee, we would like to thank them all—faculty members, committee chairmen and members, and student representatives from all departments of the College.

Once again we say, Welcome to Open House!

Louis Lanzerotti
GENERAL CHAIRMAN

VICE CHAIRMEN:

Publicity— Tom Murley

High School Publicity—

John Huttenhoff

Coordinating Committee—

John Raffl

Secretary-Treasurer—

Norman McCormick

Art and Photography—Phil Weibler

Physical Arrangements— Ron Haky

Prof. E. C. McClintock—*Adviser*

INFORMATION

Headquarters for the 1960 Engineering Open House are located in Room 57 of the Electrical Engineering Building. Questions about Open House, the College of Engineering, and the University will be answered here. Sponsors are also requested to register their groups. Information about specific departments of the College will be supplied at information booths located near the principal departmental exhibits.

TIME OF OPERATION

The 1960 Open House will be held from 10:00 A.M. to 9:00 P.M. on Friday, March 11 and 9:00 to 5:00 on Saturday, March 12.

PARKING

Free parking areas will be marked for Open House visitors, and visitors' parking permits will be available at Open House Headquarters.

FOOD SERVICE

The cafeteria located in the basement of the Illini Union serves lunch from 11:30 A.M. to 1:15 P.M., and the soda fountain is open from 2:00 to 4:30 P.M. The serving line is shortest after 12:20. The Bevier Hall cafeteria (new home economics building) will be open on Friday only from 11:30 to 12:30. In addition, there are many restaurants in the campus business district.

TEXTBOOK EXHIBIT

A display of textbooks used in College of Engineering courses has been prepared by Tau Beta Pi, the all-engineering scholastic honorary fraternity. Questions about the College, curricula, and student preparation will also be answered at the Tau Beta Pi counseling display in Room 154, Mechanical Engineering Building.

GUIDED BUS TOURS

To Betatron, Power Plant, Illinois Central Railroad exhibits. Free buses leave every half hour from the corner of Burrill and Green Streets, at Civil Engineering Hall, for the Betatron, power plant, and railroad exhibits. The railroad equipment, including a diesel locomotive, standard coach, dynamometer car, caboose, and road bed maintenance machinery, will be spotted on the University siding near Abbott Power Plant at the Stadium Drive Underpass. During the trips, Tau Beta Pi guides on the buses will indicate points of campus interest.

ST. PAT'S BALL

The Open House weekend will be climaxed Saturday night by St. Pat's Ball, honoring the patron saint of engineering. St. Pat himself will be there to bestow the title "Knight of the Order of St. Pat" on some dozen seniors who have distinguished themselves in service to the College of Engineering. Open House guests are cordially invited to attend the dance, which begins at 9:00 p.m. in Huff Gymnasium. Tickets may be purchased at the Illini Union Box Office.

AERONAUTICAL ENGINEERING

Aero. Lab. B

Aero-Structures Testing—demonstration of design evaluation techniques

Flight Regime Problems—analog computer in complex astronautic calculations

Glider—shows characteristics of unpowered and soaring flight

Ground Effect Vehicle and Helicopter—flying models demonstrate vertical and cushioned flight principles

Movies—on missile technology and modern aircraft

Photoelastic Structure Tests—use of polarized light to analyze designs

Ram Jet—working model illustrates the concepts of jet propulsion

Shock Tube—supplies supersonic air velocities for short durations

Smoke Tunnel—visual representation of air flow over airfoil shapes

Tesla Turbine and Peripheral Compressor—new power stage for lightweight turboprop engines

Cutaway Engine Models—turboprop, turbojet, rocket, and pulsejet engines

Aero. Lab. A

Plasma-Jet Generator—propulsion means for space vehicles

Rocket Motor—working engine demonstrates rocket principles

Subsonic Wind Tunnel—wing flutter and turbulence effects

AGRICULTURAL ENGINEERING

Display tent on Burrill Street

Field Tile Flow Line—flow of water in subsurface drainage tile

Water Control Structures—scale models demonstrate hydraulic designs

Soil Erosion Control—scale models show structures and methods

Sprinkler Irrigation—scale model of complete system

(continued next page)



Student-designed
and produced experimental
ground-effect and vertical-
take-off vehicle demonstrated
in Aeronautical Engineering

AGRICULTURAL ENGINEERING continued

- Farmstead Model—detailed layout of complete operation
- Truss Testing—model of machine used to test building trusses
- Automatic Feeding—model of livestock feeding system
- Pneumatic Materials Conveying System—model demonstration
- Automatic Guidance System—tractor with remote controls
- Tractor Transmissions—cutaways of automatic and conventional transmissions
- Corn Planter—display of working mechanism
- Fuel Cell Tractor—direct conversion of propane gas to electricity for power
- Aeromobile—peripheral hovering machine for use over rough terrain

CERAMIC ENGINEERING

Ceramics Building

- Ceramic Fabrication Processes—dry mixing and pressing, plastic mixing and extrusion, ceramic shape-forming equipment
- Survey of Ceramic Industry—applications of ceramics and ceramic engineering to everyday life
- Movies—research, processes, and production in the ceramic industry
- Porcelain Enamels—operating display of porcelain applied to metals
- Strength of Ceramic Materials Demonstration—varied types displayed
- Through the Fires to Perfection—techniques to prepare ceramic materials for practical use
- Ceramic Souvenirs—make your own earrings and cuff links

CHEMICAL ENGINEERING

East Chemistry Building

- Chem-Pop—free refreshment for visitors
- All-Glass Distillation Unit—as used in multicomponent system separation
- Rotary Filter—continuous solid-liquid separation methods
- Radio-Chemistry—use of Geiger counter and radiation detection
- Hilsch Tube—how to defy the laws of thermodynamics
- Temperature Measurement—simple and complex methods in chemical processes
- Chem Magic Show—mysteries of chemistry every hour on the hour; Room 116
- Movies—rest while you watch the Chemical Engineer at work; Room 115

CIVIL ENGINEERING

Civil Engineering Hall

Construction—various stages of erecting buildings; student design problems

Highways—progressive traffic movement with traffic lights; model of an interstate interchange; student designs

Hydraulics—student-constructed model of a town, with reservoir, water supply, sewage treatment, and flood control; model of highway culvert

Railway—railroad equipment models; Illinois Central Railroad equipment on Abbott Power Plant siding

Sanitary—analysis and treatment of sewage and water—demonstrations

Structures—models of various structure types; foundation failure problems

Surveying—equipment display; application of modern surveying methods

Civil Engineering Research—carried out in the crane bay of Talbot Laboratory

ELECTRICAL ENGINEERING

Electrical Engineering Building

Van de Graaf Generator—100,000-volt display of static electricity

Electronics—Tic-Tac-Toe game, displays and applications of oscilloscopes; State Police speed radar; electronically-controlled ball

Radar—surrounding terrain observed by scanning beam from antenna

Sonar—distance measurement with sound waves, as in submarines

Kissometer; educated electronic duck; lie detector; ghost writer

Communication—UHF and microwave transmission over great distances;

WPGU—student radio on the air; Synton Student Radio Club; hi fi music program

Transistors—interesting and useful applications of semiconductors

Magnetism—repelling iron balls; mutual repulsion in alternating magnetic fields; electromagnetic motor; electromagnetic cannon

(continued next page)

Time and motion study
are demonstrated as part of
laboratory practice in
Industrial Engineering



ELECTRICAL ENGINEERING continued

Miscellaneous—strength tester; high current demonstration; electronic humidity control; Jacob's ladder; Tesla coil; Data-Fax for photos transmitted by wire; one-wire light control; electronic pumps; modulated light beams for voice communication; hand-eye coordination tester; ask-the-machine game; Theremin musical instrument; color organ plays illuminated music

Television—see yourselves as others see you on closed-circuit television

GENERAL ENGINEERING

Transportation Building

Careers in General Engineering—journalism, sales, management, and geology

New Reproduction Machines—microfilm, file cards, printers and viewers

Engineering Illustration—axonometric boards, airbrush, zipatone

New Drawing System—integrated orthographic-isometric projection

Architectural Drawing—shades and shadows, perspective, isometrics

Geological Graphics—applied descriptive geometry, charts and diagrams

Machine Drawing—industry techniques, standards, tolerances, orthographics

Graphic Aids—ellipse machine, lettering guides, pantograph, instruments

Graphical Computation—slide rules, alignment charts, and nomographs

Descriptive Geometry—size, shape, and spatial relativity of geometric forms

History of Engineering—growth of the art and science; engineering leaders

Engineering Law—patents, contracts, evidence, torts, equity, corporations

Motion Picture—engineering sales in the electronics industry

INDUSTRIAL ENGINEERING

135 and 235 M. E. Building

Linear Programming and Statistics—tolerance build-up and control; IBM 610 automatic decimal point computer; random sampling—demonstrating the theory of probability

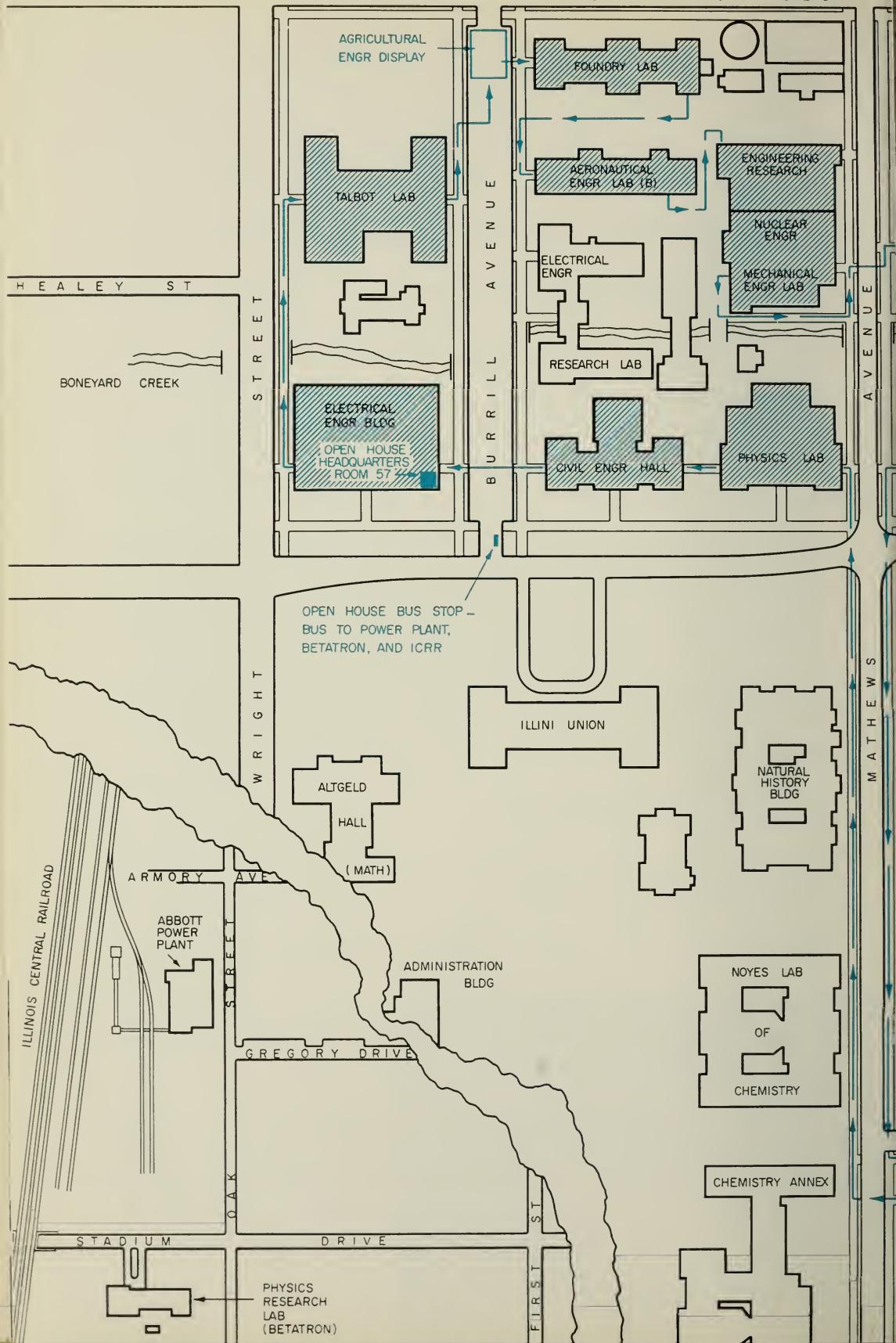
Motion and Time Study—equipment display; wall charts; electric peg board; advantages of motion and time study

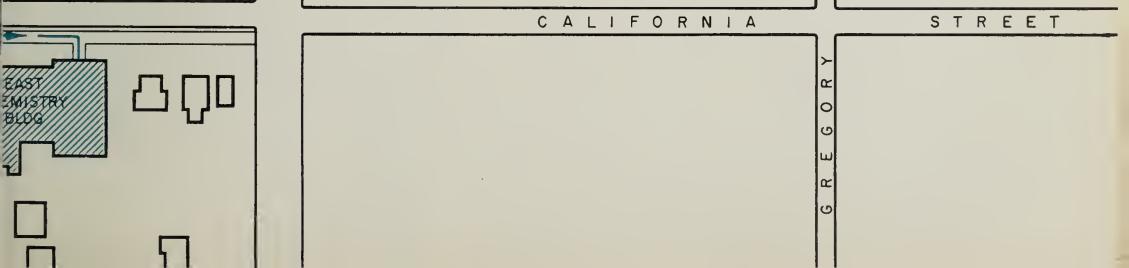
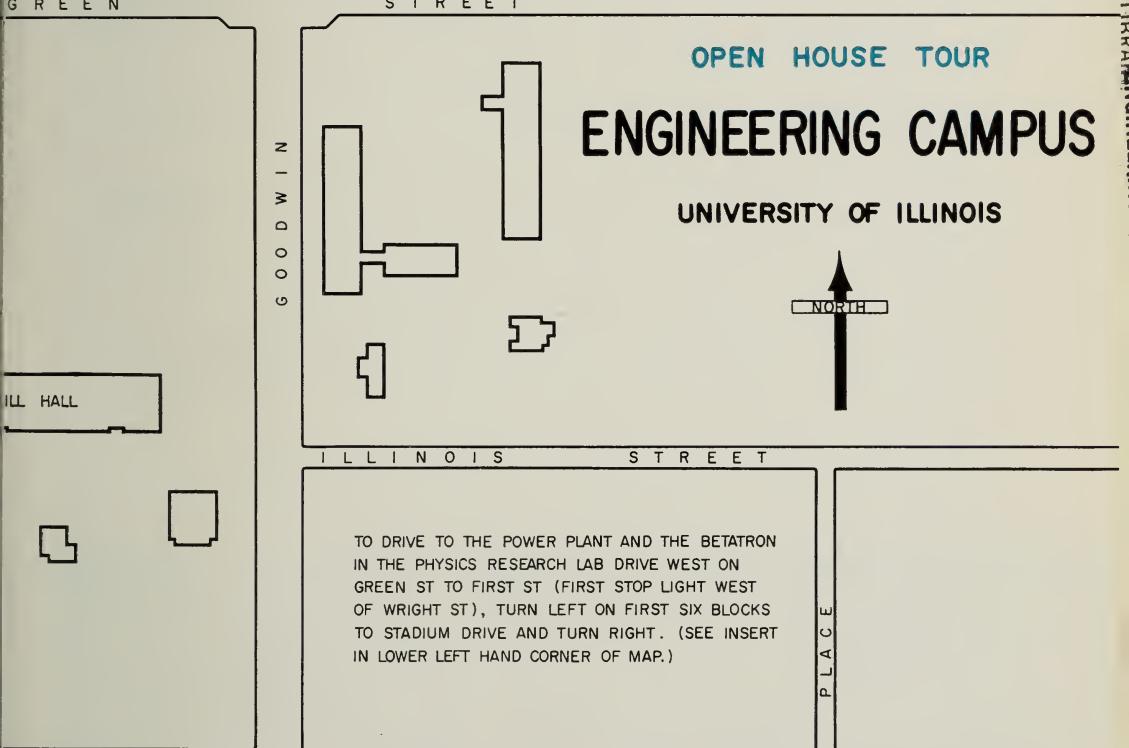
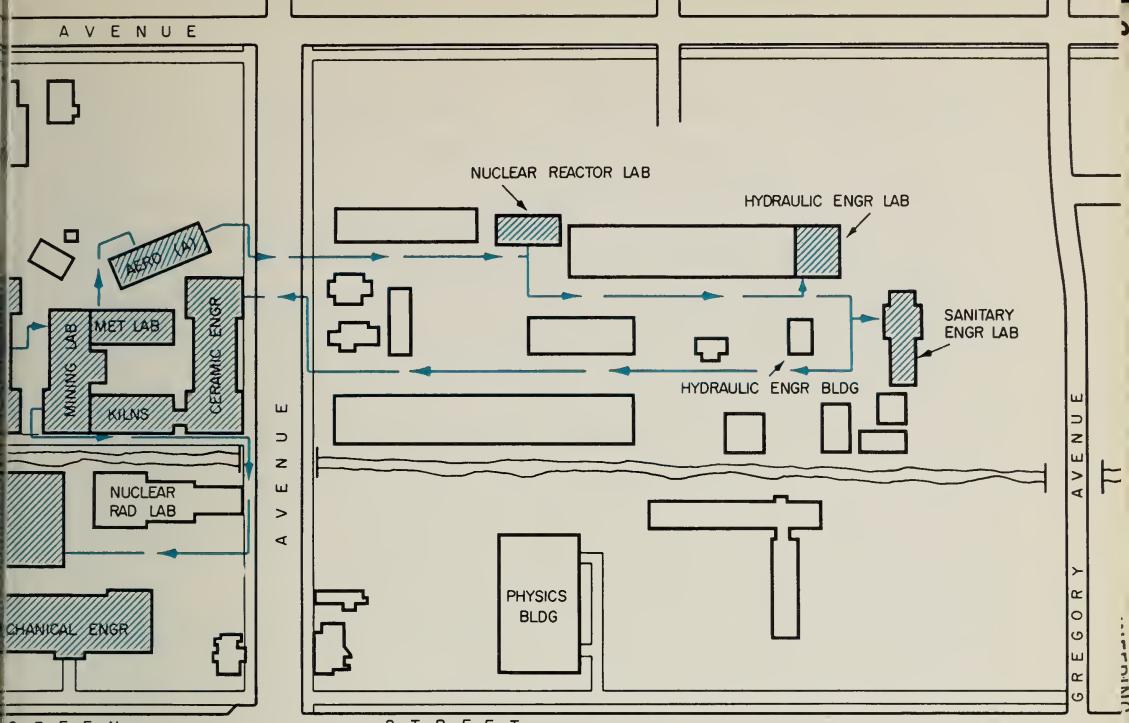
Plant Layout and Materials Handling—plant layout display; materials handling equipment—demonstration of a new concept; the mechanical man-model demonstrates correct ways of lifting loads

Safety—machine safety guards and controls; safety goggle endurance test; fire-fighting equipment display; dust explosion in model plant; fume control principles and methods

Tool Design—display of various types and methods

S P R I N G F I E L D





MECHANICAL ENGINEERING

Mechanical Engineering Building

Pi Tau Sigma—Mechanical Engineering Honorary Society—explanation of mechanical engineering curriculum

A.S.M.E.—student chapter of American Society of Mechanical Engineers—engineering opportunities open to graduate mechanical engineers

Automobile Exhibit—performance tests of automotive engines and chassis; display of modern automobiles

Heat Treatment of Metals—preparation for industrial usage

Metal Cutting—methods and research in techniques for industry

Welding—modern equipment and techniques

Machine Design—determination of forces and stresses in machine components

Foundry—demonstration of steps in making metal castings

Power Demonstrations—performance tests of prime movers; heating and ventilating equipment

Physical Environment Lab.—study of temperature and relative humidity effects on human comfort

METALLURGICAL ENGINEERING

Metallurgy Laboratory

Steelmaking Exhibit—steel production steps shown schematically

Brittle Fracture—effects of low temperatures on steel strength

Rolling Mill Demonstration—mechanical reduction of metal size

Corrosion in Action—galvanic cells; electroplating and polishing

Metal Casting—souvenir aluminum ashtrays produced each half hour

Structure of Steel—phase changes and heat treatment

Thermocouples—temperature measurement by joining two metals

Test Your Metals I.Q.—match metal characteristics and applications

Zinco—the wonder aluminum-zinc alloy; it heats up in your hand

40 Metals on Display—types ranging from lead to platinum

Gold-Cadmium Alloy—rubber-like temperature-responsive crystals

Metals Under the Microscope—visual identification methods

Crystal Models of Metals—atom arrangements in various systems

Movies—modern metallurgical processes

Photography in Metallurgy—permanent recordings of metal structures

MINING ENGINEERING

Mining Laboratory

- Automatic Hoisting—skip lifting and automatic dumping of minerals
- Diamond Drilling—core drilling equipment and core samples
- Geophysical Prospecting Equipment—magnetic, gravimetric, and seismic devices
- Dark Light and Radioactive Prospecting—short-wave and long-wave prospecting
- Mineral Economics Charts—importance of Illinois mineral industries
- Dressing Equipment—crushing, grinding, and separation of minerals
- Roof Bolting Model—mine roof suspension methods
- Slusher Loading Exhibit—dragline recovery of minerals
- Ventilation—fans and air conditioning used for air supply in mines

PETROLEUM ENGINEERING

Mining Laboratory

- Downhole Pump Display and Film—functioning of a mud-circulating pump used for oil well support
- Electrical Pumping Unit—actual mud-circulating pump
- Well-Servicing Equipment—resistivity and self-potentials; determination of formations

PHYSICS

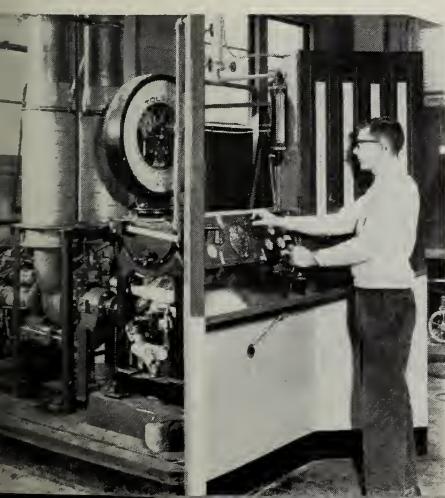
Physics Laboratory

- Mechanics—earth satellite motion and orbits, principles of rocket propulsion, colliding frictionless systems
- Nuclear Physics—model of Van Allen radiation belts, Geiger counters, counter telescopes used to detect cosmic rays and radioactivity

(continued next page)

New test stand and test methods for a modern gas turbine in the internal combustion laboratory of Mechanical Engineering.

Methods of graphical calculation and representation, plus illustration techniques, are demonstrated by General Engineering students.



PHYSICS continued

Optics—wave motion and interference, smoke box and lens demonstration, exhibit of new Land two-color photographic reproduction process

Thermodynamics—liquefied gases demonstrate changing properties of matter at low temperatures; student-made transparent geyser

Nuclear Radiation Laboratory

Cyclotron—use of electromagnetic and electrostatic means to impart high speeds to electrified particles. The particles are those used to bombard atomic nuclei, producing transmutations and artificial radioactivity.

Physics Research Laboratory

Betatron—electromagnetic acceleration of electrons to form a narrow beam of Beta rays, then used to generate high-voltage X-rays and to transmute elements. The 340, 80, and 24-million volt Betatrons will all be on display.

THEORETICAL AND APPLIED MECHANICS Talbot Laboratory

Compression of Large Concrete Cylinders—three-million-pound test machine, an important tool for full-scale evaluation of structural designs and construction methods, will be operated:

Friday: 11 a.m., and 2, 4, 7, 8, and 9 p.m. (on the hour)

Saturday: 11 a.m., and 1, 2, 3, and 4 p.m. (on the hour)

Behavior of Missiles in Rising from Water to Air:

Friday: 11:30 a.m. and 2:30, 4:30, 7:30, and 8:30 p.m.

Saturday: 11:30 a.m. and 1:30, 2:30, 3:30, and 4:30 p.m.

Surface Tension Phenomena—rope pump, water balls and rings

(continued next page)

Destructive compression test of a large concrete cylinder in the three-million-pound

machine used by Theoretical and Applied Mechanics and Civil Engineering for research.



THEORETICAL AND APPLIED MECHS. continued

- Hydraulic Jump—high-speed laminar flow contrasted with turbulent flow
- Wind Pressures on a Model House—an example of fluid behavior
- Vibrations—created and measured in various materials
- Photoelastic Stress Measurement—loads pictured through plastic models
- Strain Gages—measurement of small elongations in materials
- Members Subjected to Loadings—tension, compression, and torsion
- Short-time Creep Behavior—continued stretching under constant loads
- Fatigue of Metals—testing of materials subjected to repeated loads

NUCLEAR ENGINEERING

M. E. Laboratory Building

Subcritical Assemblies—three units, two uranium-graphite and one light-water-uranium, will be on display with appropriate neutron counting equipment in operation

Boiling-water Loop—designed to simulate the heat-transfer conditions of nuclear reactors, this high-capacity loop will be explained for those interested

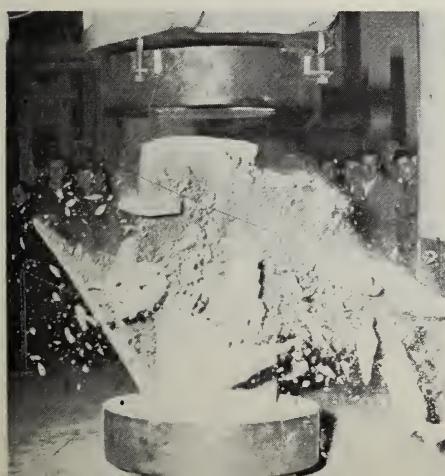
Nuclear Metallurgy Laboratory—special facilities for uranium processing, fuel-element fabrication, and other nuclear problems will be displayed for those with special interests

Reactor Laboratory

100-Kilowatt Training and Research Reactor—the University of Illinois critical reactor is in process of construction, and its laboratory building is nearly completed. See current tour information for latest word on extent to which construction activity will permit inspection.

Left—proving sensitivity of the controls by cracking a peanut; 2 and 3—the actual

break-up of the cylinder under more than one-million-pound load; right—the remains.



MATHEMATICS

260 Electrical Engineering Building

Scope of Mathematics—as a discipline closely related and essential to engineering, as well as a science in its own right, mathematics should excite the curiosity of Open House visitors. Fields of mathematics will be displayed and explained, with practical applications to engineering and other professional careers.

RADIO-ASTRONOMY

257-254 Electrical Engineering Building

University Activities—members of the Astronomy Club will display and explain the University's equipment and activities in exploration of the atmosphere and space by radio waves. Projects will include the Moonbeam antenna (theme of this year's Open House), the 400x600' radio-telescope now under construction near Danville, satellite tracking by interferometer and reflection methods, and auroral effects on radio waves both from earth and from satellites.

AIR FORCE R.O.T.C.

260 E. E. Building

Air Power in Education—sponsored by Detachment 190, AFROTC

Jet Engine Cutaway Model—parts and relations clarified

Pilot's Personal Equipment—safety and efficient operation

ARMY R.O.T.C.

Signal Corps

A. P. News Service—teletype signals via radio

Telephone Communication—field phones connected and operating

F.M. and A.M. Radio—shows similarity to commercial equipment; constructed to army specifications

Teletype Communication—teletypewriters operated through walkie-talkies

Corps of Engineers

Bridges—fixed and floating models

Mines and Demolition Techniques—explanations, and explosive models

Terrain Model—illustrates troop operations

Army Map Service—district engineers construction projects

Ordnance

Models and Photographs—army ordnance in the space age

Small Arms—.30 caliber M-1 rifle, M-2 carbine, and other arms

(continued next page)



Open House visitors inspect the Cyclotron, one of several nuclear particle accelerators used in University of Illinois Physics research

ARMY ROTC continued

Crew-Served Weapons—81 mm. mortar, 51 mm. rifle, .30 caliber machine gun

Inert Explosives—dummies of ammunition and charges used in the army

NAVAL R.O.T.C.

152 and 154 M. E. Building

Manual Aircraft Control—servomechanisms demonstrate flying methods

Gyroscopic Altitude Control—demonstration of autopilot methods

Movie—color film shows the *Sidewinder* air-to-air missile

Models—*Nautilus* - atomic-powered submarine of polar fame

Patrick Henry - atomic-powered ballistic missile submarine

SUMMER SCIENCE TRAINING SCHOLARSHIPS

sponsored by the National Science Foundation

Outstanding high school students, both boys and girls, who will be seniors in September, 1960, are eligible and are invited to apply for appointments this summer, and for living-expense grants when financial need requires. The program will last six weeks, June 13 to July 22, and will include lecture-discussions, laboratory and research visits, and problem-solving periods. University housing and meals will be arranged, with counselors, and University recreation facilities will be available.

The program is intended to provide participants with a broad background for college study of engineering or science, and to improve integration of senior-year courses. Subject matter will include past achievements in engineering and science, current research and practice, and future needs. Lectures will be given by local and visiting professors in special fields, and opportunities will be provided for personal contacts with research project directors and scientists.

Further information and application forms can be obtained from the Department of General Engineering, 117 Transportation Building, or by writing Professor Jerry S. Dobrovolny, Director of the program for the College.



A single crystal "whisker" of pure iron, an extremely strong metallic form, which will be contrasted with other metal structures or states in the Metallurgical Engineering demonstrations and displays

OPEN HOUSE COORDINATING COMMITTEE

FACULTY ADVISERS

R. J. Beals, CHAIRMAN,

F. G. Bauling	<i>Ceramic Engr.</i>	L. J. Koester, Jr.	<i>Physics</i>
H. H. Beaty	<i>T.A.M.</i>	S. L. Paul	<i>Civil Engr.</i>
E. J. Brown	<i>Agric. Engr.</i>	J. A. Quinn	<i>Chem. Engr.</i>
G. R. Eadie	<i>Mech. Engr.</i>	P. F. Schwarzlose	<i>Elec. Engr.</i>
H. H. Hilton	<i>Mining Engr.</i>	W. L. Shick	<i>General Engr.</i>
	<i>Aero. Engr.</i>	C. M. Wayman	<i>Metallurgical Engr.</i>

DEPARTMENTAL REPRESENTATIVES

<i>Dept.</i>	<i>Senior</i>	<i>Junior</i>
<i>Aero. Engr.</i>	Richard Bielawa	Robert Liebeck
<i>Agric. Engr.</i>	Delmar Nelson	Rollin Strohman
<i>Ceramic Engr.</i>	Robert Baker	William Long
<i>Chem. Engr.</i>	Thomas Trousil	Philip Gresho
<i>Civil Engr.</i>	Gerald Hoff	
<i>Elec. Engr.</i>	Charles Evans	Oren Kesler
<i>General Engr.</i>	Thomas Prickett	Francis Saliamonas
<i>Indust. Engr.</i>	Leon Zeter	Mike Libertta
<i>Mech. Engr.</i>	William Sailors	Leo Castelein
<i>Metall. Engr.</i>	Richard Larson	Robert Wittman
<i>Mining Engr.</i>	Ronald Sprague	James Driver
<i>Physics</i>	John Clem	Allan Barger
<i>T.A.M.</i>	John Melvin	Virgil Lenzi
<i>Air Force</i>	Robert Gibson	John Daniels
<i>Army Engrs.</i>	George Roman	James Govaia
<i>Army Ordnance</i>	Gerald Jahnke	James Mitchell
<i>Signal Corps</i>	John Frank	Gary Wieting
<i>Navy ROTC</i>	Midn. L. A. Horve	Midn. D. R. Chamberlin

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ENGINEERING LIBRARY

ENGINEERING OPEN · HOUSE

ALTEGEI HALL

ENGINEERING LIBRARY

UNIVERSITY OF ILLINOIS III
MARCH 10-11, 1961 · URBANA



Greetings to Open House Visitors

from Students and Faculty

You are especially welcome guests, both because of the interest you are taking in your state university, and because the nation needs technically educated as well as technically aware citizens. Thus we are happy to have you visit us whether you seek acquaintance with engineering as a possible field of study and career, or whether you wish to find out the responsibilities of an engineer as a professional man.

For all of you we will try to make available insights into engineering as an undergraduate study, and an increasingly challenging field for graduate work as well. We will try to display courses and textbooks, laboratories, student activities, and at least a partial reflection of our broad research interests. The students of the College, who are largely responsible for planning and preparing Open House, and the Faculty, who support and advise them, join in inviting you and in welcoming your arrival.

JOHN RAFFL
Student General Chairman

STUDENT VICE-CHAIRMEN

Tom Metzger—Coordination
Robert C. Miller—Publicity
Robert Yackel—Art and Design
Prof. E. C. McClintock—*Adviser*

Joe Wdowiarz—High School Publicity
Joe Rohaly—Secretary-Treasurer
Jim Murphy—Physical Arrangements

FOOD SERVICE

The cafeteria located in the basement of the Illini Union serves lunch from 11:30 A.M. to 1:15 P.M., and the fountain is open from 2:00 to 4:30 P.M. There are also many restaurants in the campus business district.

INFORMATION

Engineering Open House Headquarters are located in Room 57 of the Electrical Engineering Building and in Room 50 of the Ceramic Engineering Building. Information concerning Open House, the College of Engineering, and the University will be available at these locations. Open House hours Friday are 10 A.M. to 9 P.M., Saturday 9 to 5.

GUIDED BUS TOURS

To Bettatron, Power Plant, and Illinois Central Railroad exhibits. Free buses leave every half hour from the corner of Burrill and Green Streets, at Civil Engineering Hall, for the Beta-ttron, power plant, and railroad exhibit. The railroad equipment, including a diesel locomotive, standard coach, dynamometer car, caboose, and road bed maintenance machinery, will be spotted on the University siding near Abbott Power Plant at the Stadium Drive Underpass. During the trips, Tau Beta Pi guides on the buses will indicate points of campus interest.

FOOD SERVICE

The Cover: The photoelastic model of a steel beam shows stress concentration. This is accomplished with monochromatic, polarized light passed through a plastic model of the beam, which is loaded as the actual beam will be when it is in use.

Aeronautical Engineering

Aero Labs B and A

ENGINES
Ram Jet; Ground Effect Vehicles; Rocket; Turboprop; Turbojet; Pulse-jet Engine; Tesla Turbine; Peripheral Compressor.

TEST EQUIPMENT

Shock Tube; Photoelastic Structure Test; Smoke Tunnel; Aero-Structures Testing; Subsonic Wind Tunnel and Flutter Testing; Plasma-Jet Generator.

MISCELLANEOUS

Orbit and Trajectories Exhibit; Flight Regime Problems; Analog Computer; Movies—missiles and aircraft.

Agricultural Engineering

Display on Burrill St.

FARM STRUCTURES

Joint and Wall Construction Procedures.

POWER and MACHINERY

Tractors; Tractor Testing; Hay-Making.

SOIL and WATER

Drainage Tile; Surveying Equipment; Conservation Control Structures.

ELECTRICITY and PROCESSING

Automatic Feed Handling; Electric Motors; Environmental Control.

Ceramic Engineering

Ceramics Bldg.

PREPARATION of CERAMIC BODIES
Simson Mixer—dry mixing and pressing. Extruding Machine.

KILNS and SMELTERS

Kiln with Optical Pyrometer; Crucible and Rotary Enamel Smelters.

PRODUCTS of CERAMIC TECHNOLOGY

Floor and Wall Tile; Refractory Brick; Ceramic Nose Cone Components; Sewer Pipe; Electrical Ceramic Components; Abrasives; Vitreous and Semi-Vitreous Dinnerware; Porcelain Enamels; Glass. Movies—Ceramic Production.

Chemical Engineering

East Chem. Bldg.

EQUIPMENT

Glass Distillation Unit; Rotary Filter; Hilsch Tube — defies thermodynamic laws; Radio Chemistry—radiation detection.

MISCELLANEOUS

Wave Formation; Chem Pop free refreshment; Chem Magic Show—presented on the hour.

Civil Engineering

Civil Engr. Bldg.

CONSTRUCTION

Buildings; Highways; Structures Design; Surveying; Photogrammetry; Railways.

HYDRAULICS and SANITATION

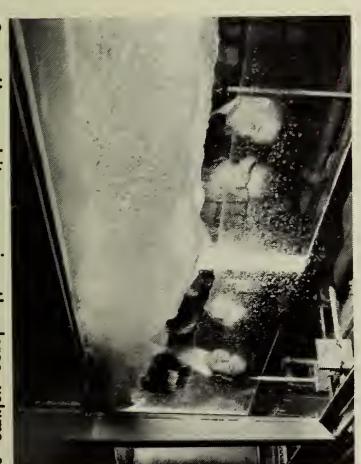
Water Supply, Treatment; Flood Control; Sewage Treatment and Disposal.

SOIL MECHANICS

Retaining Wall Failure Demonstration; Foundation Failures Demonstration; Ground Settlement Under Loads.

TRAFFIC

Traffic Signals; Radar Speed Detection; Automatic Volume-Density Computer.



Open House visitors examine the large volume of turbulent flow created from the small but high-speed volume of laminar flow seen to the right in the fluid mechanics laboratory.

Electrical Engineering

Electrical Engr. Bldg.

COMMUNICATION

UHF and Microwave Transmission; WPGU—Student Radio Station; WILL—University Television Station; Stereophonic Sound Exhibit; Commercial Radio Transmitter.

ELECTRONICS

Lie Detector; Ghost Writer; Kissometer; Oscilloscope Display; Electronic Whale; Talking Dog; Sonar; State Police Radar; Electronically Controlled Ball; Electronic Humidity Control.

General Engineering

Transportation Bldg.

ENGINEERING GRAPHICS

Student Demonstrations of Problem-Solving; Graphic Aids and Illustrating Methods; Air-brushing; New Drawing Distribution System.

SPECIAL TOPICS

Engineering History; Engineering Law; Hospitality Room; Guidance Movies.

Industrial Engineering

135 and 235 M. E. Bldg.

SAFETY

Machine Guards; Firefighting Equipment; Fume Control; Dust Explosions.

MAGNETISM

Strength Tester; Repelling Iron Balls; Electromagnetic Motor and Cannon.

MISCELLANEOUS

Van de Graaff Generator; Jacob's Ladder; One-Wire Light Control; Donner Computer; Data-Fax; Tesla Coil; Color Organ; Hand-Eye Coordination Tester.

Mechanical Engineering

Mechanical Engr. Bldg.

METAL WORKING

Heat Treatment; Metal Cutting; Welding; Metal Casting—at Foundry Lab (Springfield Avenue).

FIELDS OF INTEREST

Machine Design; Heating and Ventilating; Physical Environment Laboratory; Internal Combustion Engines.

INFORMATION

Pi Tau Sigma—M. E. Honorary Society; American Society of Mechanical Engineers Student Branch.

Metallurgical Engineering

PROCESSES

Heat Treatment of Steel; Welding; Production Steps in Steelmaking; Rolling Mill Demonstration.

METAL STRUCTURE

Phase Changes in Steel; Crystal Models; Metals under the Microscope; Movement of Crystal Imperfections.

MISCELLANEOUS

Powder Metallurgy; Corrosion in Action; Thermocouples; Display of Metals; Zinc; Photography in Metallurgy.



Research installation for study of machine-tool wear and cutting efficiencies, a basic mechanical engineering investigation of great importance to Illinois industry and to national productivity.

Mining Engineering

Mining Lab.

OPTICS
Spectra from Gaseous Discharge; Land Two-Color Photography.

MINE EQUIPMENT

Automatic Hoisting; Mine Ventilation; Slusher Loading.

MINERAL PROCESSING

Cones; Jigs; Tables.

PROSPECTING

Geophysical; Diamond Drill.

Petroleum Engineering

Mining Lab.

SOURCES and EQUIPMENT

Model Oil Reservoir; Model Drilling Rig; Oil Well Surveying Truck and Equipment; Gas Drive; Waterflooding.

Physics

Physics Lab.

LOW TEMPERATURE PHYSICS

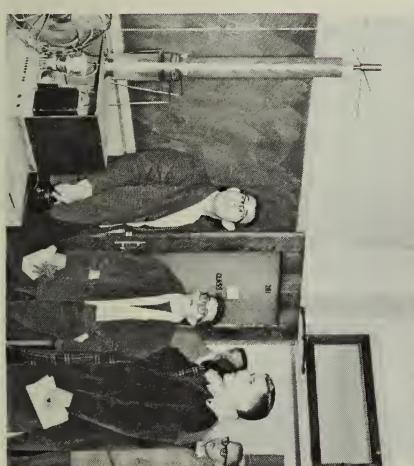
Liquified Gases, 200° Below Zero.

NUCLEAR PHYSICS

Geiger Counters; Radioactivity; Spark Chamber for Cosmic Rays.

ELECTRICITY and MAGNETISM

Measuring the Speed of Light Electronically; Movies—room 119 Phys. Lab.; Schedule will be posted.



Theoretical and Applied Mechanics

Talbot Lab.

STRESSES and STRAINS

Three-Million-Pound Test Machine—Concrete cylinders will be compressed Friday: 11 a.m. and 2, 3, 4, 5, and 7, 8, 9 p.m. (on the hour); Saturday: 10, 11 a.m. and 1, 2, 3, 4 p.m. (on the hour); Photoelastic Stress Measurement; Experimental Stress Measurement; Materials Testing.

CYCLOTRON

Nuclear Radiation Lab.

Electromagnetic and Electrostatic means used to impart high speeds to electrified particles. The particles are used to bombard atomic nuclei, producing transmutations and artificial radioactivity.

HYDRAULICS

Fluid Mechanics; Hydraulic Machinery and applications of hydraulic forces.

MISCELLANEOUS

Metals and Fatigue; Vibration Models; Engineering Mechanics Curriculum.

Digital Computer Laboratory

The Laboratory consists of the Illiac digital computer, which was built at the University, and an I.B.M. 650. The Laboratory also has under construction a new computer 50-100 times as fast as Illiac. The Illiac will be explained and demonstrated every hour on the hour. Laboratory personnel will also be on duty continuously to answer questions.

Demonstration of a rotary device powered by emission of electrically-charged ions at very high voltages. Such devices may in the future be of major use for propelling missiles or other vehicles in space.

Nuclear Engineering

Mechanical Engr. Lab.

SUBCRITICAL ASSEMBLIES

Three units, two uranium-graphite and one light-water-uranium, will be on display, with appropriate neutron counting equipment in operation.

BOILING WATER LOOP

Designed to simulate the heat-transfer conditions of nuclear reactors, this high-capacity loop will be explained for those interested.

NUCLEAR METALLURGY

Facilities for uranium processing and fuel-element fabrication. (Explained for those with special interests.)

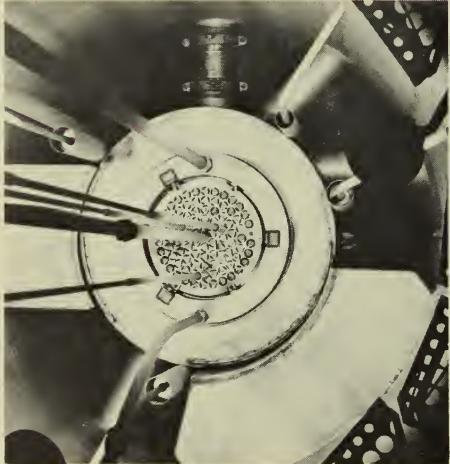
THE ILLINOIS TRIGA

Nuclear Reactor Lab.

This 100-Kilowatt reactor uses 4.5 pounds of U-235 as fuel. A "blue glow" caused by the nuclear radiation can be viewed safely from the top of the reactor while it is operating.

DRILL MEET

Open House visitors are invited to attend the Pershing Rifles Invitational Drill Meet of nearly 100 teams Friday afternoon and all day Saturday. Buses will stop at the Armory, south center door on Gregory Drive.



R.O.T.C. Units

AIR FORCE

E. E. Bldg.

Jet Engine Cutaway Model; Scale Models of Missiles; Pilot's Personal Equipment.

ARMY CORPS OF ENGINEERS

153 M. E. B.

Fixed and Floating Bridge Models; Detection Equipment for Mine Warfare; Corps of Engineers Construction Projects.

ARMY SIGNAL CORPS

153 M.E.B.

Telephone and Teletype Communications; A.M. Radio—in operation.

ARMY ORDNANCE

143b M. E. B.

Ammunition—shaped charge, plastic antitank mine, tungsten sabot round, high explosive plastic round; Powder Metallurgy Display; T.N.T. Plant Layout.

NAVAL R.O.T.C.

152-154 M.E.B.

AVIATION and ASTRO SPACE

Carrier Warfare; Air-to-Air Missiles; Control Systems; Radio Telescope.

SUBMARINE and SURFACE FORCES

Nuclear Submarines; Antisubmarine Warfare; Surface-to-Air Missiles.

Core of the TRIGA nuclear reactor, viewed through the protective water shield. Above, the reactor is cold, showing the central group of fuel and moderator units; below, at full power, it is lighted by the blue glow of Cerenkov radiation.

Textbook Exhibit

A display of textbooks used in College of Engineering courses has been prepared by Tau Beta Pi, all-engineering scholastic honorary fraternity. Questions about the College, curricula, and student preparation will also be answered at the Tau Beta Pi counseling room in Electrical Engr. Bldg.

Scholarship Exhibit

A display of the many scholarships available to students of the University of Illinois will be presented by Sigma Tau, all-engineering scholastic honorary fraternity. Questions concerning requirements for eligibility and procedures for application will be answered at the Sigma Tau display in the Electrical Engineering Building.

Mathematics

Although it is a science of its own, mathematics is very closely related and essential to engineering. Sigma Tau fraternity will present a display of fields of mathematics along with practical applications to engineering in the Electrical Engineering Building.

St. Pat's Ball
Held on Saturday, March 11 from 9:00 p.m. to 1 a.m. in the Illini Union Ballroom.

Open House Coordinating Committee

FACULTY ADVISERS

Dept.	Senior	Junior
Aeronautical Engr.	G. R. Eadie, Chairman	Mining Eng.
Agricultural Engr.	George Carruthers	J. W. Murdock.....T. A. M.
Ceramic Engr.	Rollin Strohman	E. J. Brown.....Mechanical Engr.
Civil Engr.	William Long	S. L. Paul.....Civil Engr.
Chemical Engr.	George Nasses	W. H. Bruckner.....Metallurgical Engr.
Electrical Engr.	E. R. Wilkinson	D. D. Perlmutter.....Chemical Engr.
General Engr.	Oren Kesler	J. H. Goldberg.....Aeronautical Engr.
Industrial Engr.	James Bader	L. C. Pigage.....Industrial Engr.
Mechanical Engr.	W. F. Waterman	D. R. Hunt.....Agricultural Engr.
Metallurgical Engr.	Robert Wittman	L. J. Koester.....Physics
Mining Engr.	Arthur Schmidt	A. W. Swago.....Electrical Engr.
Physics	James Potter	
T. A. M.	Gary Hough	
Air Force	Virgil Lenzi	
Army Engrs.	Richard McManus	Vance Lenzi
Army Ordnance	James Govaia	
Signal Corps	James Mitchell	Robert Shewmaker
Naval R.O.T.C.	Gary Wieting	Charles McLellen
	Dennis Chamberlin	Charles Orr

DEPARTMENTAL REPRESENTATIVES

OPEN HOUSE TOUR ENGINEERING CAMPUS

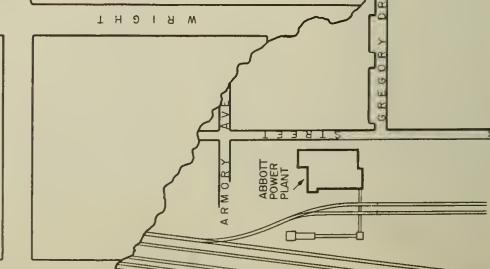
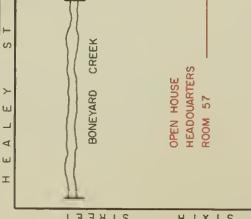
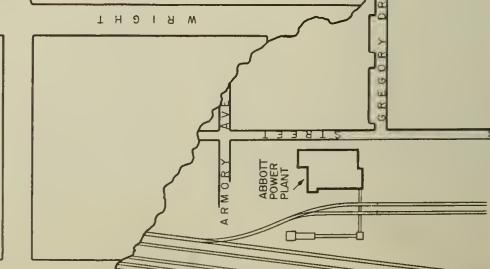
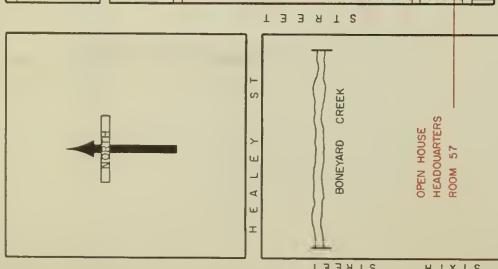
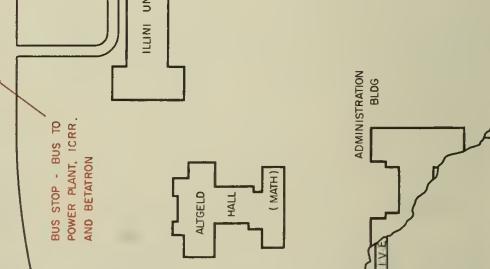
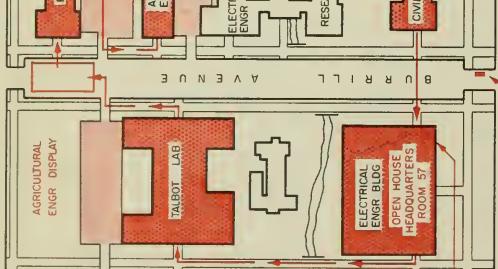
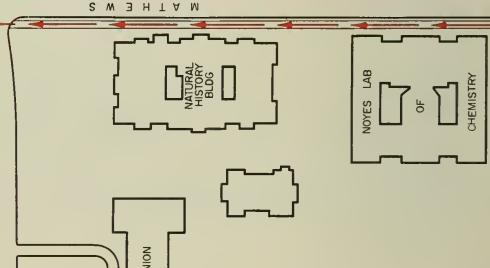
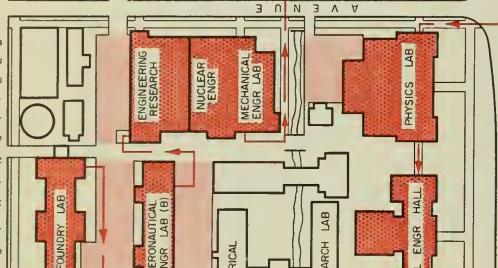
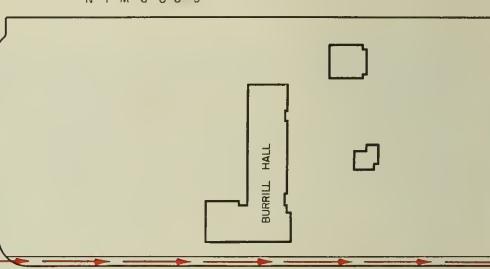
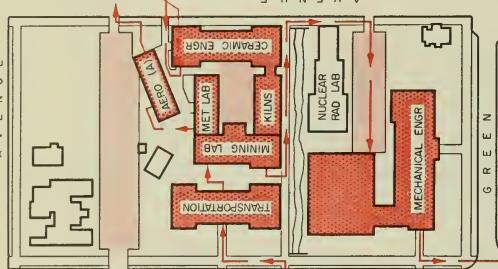
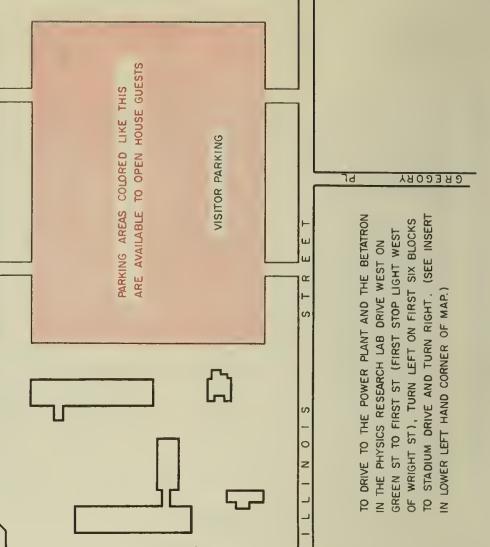
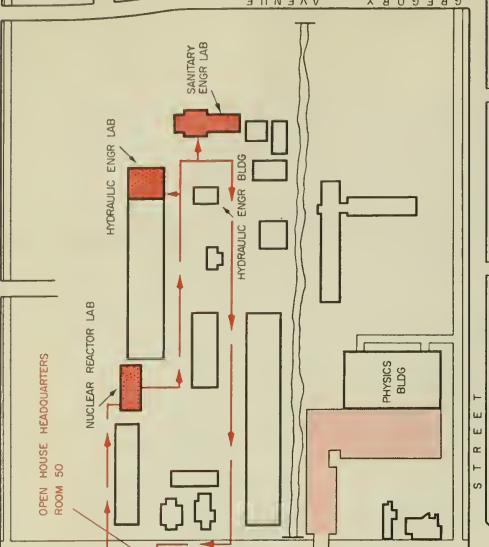
OPEN HOUSE TOUR

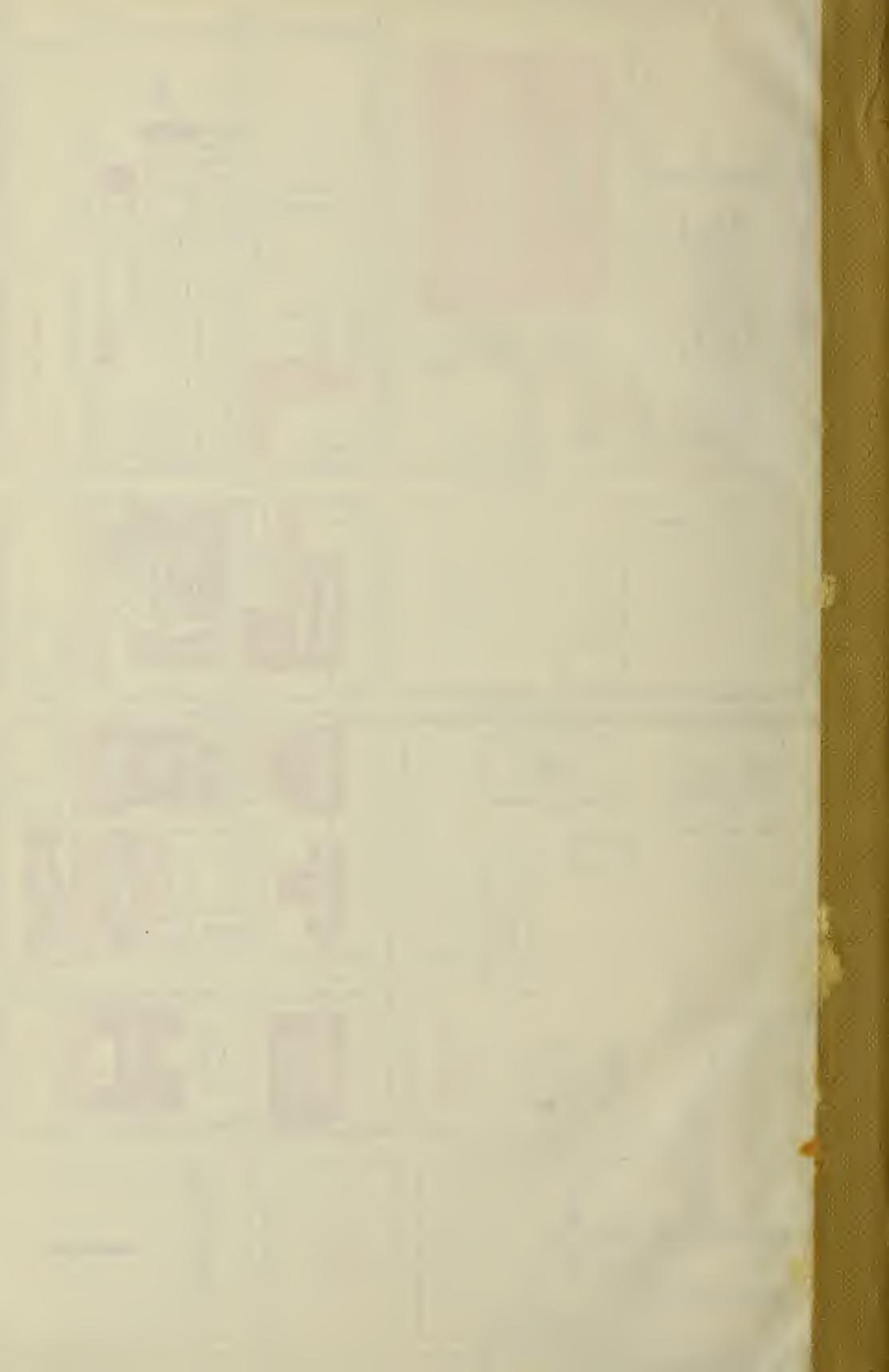
TO DRIVE TO THE POWER PLANT AND THE BETATRON

IN THE PHYSICS RESEARCH LAB DRIVE WEST ON
GREEN ST TO FIRST ST (FIRST STOP LIGHT WEST
OF WRIGHT ST), TURN LEFT ON FIRST SIX BLOCKS
TO STADIUM DRIVE AND TURN RIGHT. (SEE INSERT
IN LOWER LEFT HAND CORNER OF MAP.)

VISITOR PARKING

PARKING AREAS COLORED LIKE THIS
ARE AVAILABLE TO OPEN HOUSE GUESTS





UNIVERSITY OF ILLINOIS-URBANA



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